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NOTES ON

SOME OF THE INDIAN MARKETS FOR MADRAS TIMBERS

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BY

J. A. MASTER, Esq., I.F.S.
Forest Economist, Madras

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PREFACE

This report deals in two parts, with the timber market conditions of various markets on the West Coast and internal markets of the Madras Presidency. The time at my disposal to inquire into the West Coast markets of Bombay Presidency was limited to one month and most of the inquiry made was in a hurry. Further I had great difficulty everywhere in extracting accurate information from timber merchants who always looked upon my inquiry with suspicion though I made quite clear the object of my visit to them. However, with patience and roundabout talking with them I have been able to collect figures required for this report. All buying and selling rates for reasons explained above should, therefore, be taken with a certain amount of caution.

Appendix IV deals with buying and selling rates of various markets in digested form and it renders comparison of rates very easy ;

Appendix III gives the selling rates of logs at Government depots in various districts ;

Appendix II shows an abstract of the export and import trade of timber of various markets with Malabar and Cochin, and

Appendix I gives the names and addresses of the important timber merchants in the various important markets.

J. A. MASTER,
Forest Economist, Madras.

9th October 1928.

EXPLANATORY NOTE

24 virals = 1 kole = 28 inches.
1 solid kole is 28 inches long by 14 inches broad × $\frac{6}{7}$ inch thick.
100 solid koles = $26\frac{3}{4}$ cubic feet.
1 solid candy = 13 cubic feet.
1 sawing candy = 66 square feet.
1 ton = 50 cubic feet.

PART I

REPORT ON THE INDIAN TIMBER MARKETS

BY

J. A. MASTER, Esq., I.F.S.
Forest Economist, Madras.

My first visit was to Olavakkot Saw Mills to get some first-hand idea of our sawn material, specially those of the junglewood species. From Olavakkot, I moved on to Calicut where some important timber merchants were interviewed by me and by Ranger Swamikutti. The following information collected from various sources gives a brief idea of the timber markets, condition in and around Calicut.

2. The various species dealt with by the Calicut merchants, the price at which timber is bought and sold by them are given in the statement attached hereto.

3. *Source.*—A large percentage of the annual output of timber that comes into the Calicut market is from private forests in the Nilambur Valley such as those of Kuttiyadi, Pudupadi and the Mannarghat forests. Only a small percentage really comes from the Government Timber Depot, Beypore, though practically the whole of the teak seems to come from the Government forests.

4. *Logs.*—Round long logs are more in demand than the short squared logs.

5. *Kolmarams and chattams.*—It is understood that kolmarams (15′×6″×4″ and 15′×6″×3″) and chattams 10′×6″×3″ of the more important species such as those of Pali (*Dichopsis elliptica*), Poon (*Calophyllum tomentosum*), *Hardwickia pinnata*, *Dipterocarpus indicus* and *Acrocarpus fraxinifolius* are sold in Calicut market at Rs. 35 to 90 per set of 20 kolmarams or 40 chattams according to species. The price of each species is given separately in Appendix IV. Such standardized kolmarams and chattams are usually sawn in the forests and brought in carts to Calicut for sale. Most of these are for consumption in the southern districts though few are said to be shipped to Bombay, Kathiawar and Karachi, as joists. Kolmarams and chattams of miscellaneous species are also brought out from the forests ; but the demand is limited.

6. *Spokes and felloes.*—These again find the maximum sale in the southern districts and like kolmarams and chattams are converted (hewn or sawn) in the forests and brought to Calicut for sale. Teak (*Tectona grandis*) spokes and felloes fetch Rs. 20 per set of 12 felloes and 24 spokes.

7. *Railway sleepers* of approved species are generally converted in the forests.

8. *Sawn sizes.*—The usual sizes in demand are of 3″×1½″, 3″×2″, 3″×3″, 4″×1½″, 4″×2″, 4″×3″, 5″×3″, 5″×4″, 6″×3″, 6″×4″, in lengths of 10′ and up ; 12″×1″, 14″×1½″ and 14″×1¼″ are special planks sizes and are sold at special rates. Mango (*Mangifera indica*) planks 10′ and up, 12″ and up in width, 1″ to 1½″ in thickness are in large demand. These (i.e., mango planks) are chiefly exported to Karachi, Bombay and Kathiawar. Scantlings are never as a rule kept in stock, but they are only converted on specific orders.

Species.	*Annual consumption approximate in candies.	Buying price.			Selling price.			
					Logs.			Boards and scantlings per c.ft.
		Per candy.	Per c.ft.	Per ton.	Per candy.	Per c.ft.	Per ton.	
		RS. A. RS. A.	RS. A. RS. A.	RS. A. RS. A.	RS. A. RS. A.	RS. A. RS. A.	RS. A. RS. A.	RS. A. RS. A.
1. Teak (*Tectona grandis*) ...	20,000	12 0 to 40 0	0 15 to 3 1	46 2 to 153 14	16 0 to 50 0	1 4 to 3 14	61 9 to 192 5	1 2 to 7 8
2. Rosewood (*Dalbergia latifolia*). [Overseas excluded]	4,000	14 0 to 25 0	1 1 to 1 15	53 14 to 96 2	17 0 to 30 0	1 5 to 2 5	65 6 to 115 6	2 0 to 7 0
3. *Terminalia paniculata*	10,000	8 0 to 15 0	0 10 to 1 2	30 12 to 57 11	14 0 to 19 0	1 1 to 1 7	53 14 to 73 1	1 8 to 2 12
4. Benteak (*Lagerstroemia lanceolata*)	2,000	7 0 to 15 0	0 9 to 1 2	26 15 to 57 11	8 0 to 20 0	0 10 to 1 9	30 12 to 76 15	1 8 to 2 4
5. Irul (*Xylia xylocarpa*) ...	10,000	8 0 to 26 0	0 10 to 2 0	30 12 to 100 0	12 0 to 28 0	0 15 to 2 2	46 2 to 107 11	1 0 to 3 0
6. Poon (*Calophyllum tomentosum*)	3,000	12 0 to 17 0	0 15 to 1 5	46 2 to 65 6	15 0 to 18 0	1 2 to 1 6	57 11 to 69 4	1 10 to 1 12
7. *Dichopsis elliptica*	10,000	12 0 to 17 0	0 15 to 1 5	46 2 to 65 6	17 0 to 20 0	1 5 to 1 9	65 6 to 76 15	1 10 to 1 12
8. *Vateria indica* (*Vellapayane*) ..	6,000	7 0 to 12 0	0 9 to 0 15	26 15 to 46 2	9 0 to 14 0	0 11 to 1 1	34 10 to 53 14	1 6 to 1 7
9. *Hardwickia pinnata* (*Chorapayan*)	3,000	7 8 to 16 0	0 9 to 1 4	28 14 to 61 9	8 0 to 18 0	0 10 to 1 6	30 12 to 69 4	1 12 to 2 0
10. *Dipterocarpus indicus* (*Kalpayane*)	3,000	11 0 to 16 0	0 14 to 1 4	42 5 to 61 9	16 0 to 20 0	1 4 to 1 9	61 9 to 76 15	1 10 to 1 12
11. Machilus *macrantha* (*Kultimavu*)	1,000	7 8 to 12 0	0 9 to 0 15	28 14 to 46 2	9 0 to 15 0	0 11 to 1 2	34 10 to 57 11	1 6 to 1 14
12. Masua (*Vynavu*)	5,000	18 0 to 24 0	1 6 to 1 14	69 4 to 92 5	22 0 to 26 0	1 11 to 2 0	84 10 to 100 0	1 8 to 3 0
13. Hopea	500	15 0 to 30 0	1 2 to 2 5	57 11 to 115 6	22 0 to 35 0	1 11 to 2 11	84 10 to 134 10	1 8 to 3 0
14. Ainee (*Artocarpus hirsuta*) ...	400	15 0 to 20 0	1 2 to 1 9	57 11 to 76 15	18 0 to 26 0	1 6 to 2 0	69 4 to 100 0	2 0 to 2 4
15. Jack (*Artocarpus integrifolia*).	300	17 0 to 22 0	1 5 to 1 11	65 6 to 84 10	22 0 to 25 0	1 11 to 1 15	84 10 to 96 2	2 0 to 3 8
16. Red cedar (*Cedrella toona*) ...	3,000	12 0 to 16 0	0 15 to 1 4	46 2 to 61 9	20 0 to 22 0	1 9 to 1 11	76 15 to 84 10	2 8 per piece of 8′ × 7″ × 5″.
17. Red wood Misc	5,000	5 0 to 8 0	0 6 to 0 10	19 4 to 30 12	6 0 to 10 0	0 7 to 0 12	23 1 to 38 7	1 0 to 1 6
18. White wood Misc	10,000	4 0 to 7 0	0 5 to 0 9	15 6 to 26 15	5 0 to 6 0	0 6 to 0 7	19 4 to 23 1	1 0 to 1 2
19. Bombax	1,000	3 8 to 6 0	0 4 to 0 7	13 7 to 23 1	4 0 to 9 0	0 5 to 0 11	15 6 to 34 10	1 0 to 1 8
20. Mango (*Mangifera indica*) ...	500	4 0 to 7 0	0 5 to 0 9	15 6 to 26 15	9 0 to 11 0	0 11 to 0 14	34 10 to 42 5	1 0 to 1 8
21. Teak kattais, 8′ and up × 5″ × 1¼″...	10,000	15 0 to 18 0	1 2 to 1 6	57 11 to 69 4	20 0 to 28 0	1 9 to 2 2	76 15 to 107 11	.. ...
22. Kolmarams and chattams ...	10,000 sets.	35 0 to 50 0 per 20 kolmarams or 40 chattams	......	......	45 0 to 70 0 per 20 kolmarams or 40 chattams	......	......	......
23. Spokes and felloes	......	12 0 to 18 0	0 15 to 1 6	46 2 to 69 4	15 0 to 22 0	1 2 to 1 11	57 11 to 84 10	......

* The figures given in column 2 are very unreliable and should not be taken into account.

9. *Sawing charges.*—The usual rate in saw mills for logs measured by tape and $\frac{1}{4}$ girth measurements, for :—

(1) Soft wood species is Rs. 3-4-0 per candy for boards of $\frac{3}{4}''$ thickness and Rs. 2-12-0 for scantlings, and

(2) Hardwood species—the rate is Rs. 3-8-0 and Rs. 3, respectively.

10. *Places to which timber is distributed.*—(*a*) A good deal of timber is bought by merchants from southern districts, Bangalore and Kolar Gold Fields. It is also exported to Arabia, Persian Gulf, Bombay, Karachi and Kathiawar.

(*b*) According to the figures provided by the Collector of Customs, Madras, for 1927–28, the timber exported to coastal ports is as under :—

Port.	Teak (*tectona grandis*) in tons.	Junglewood in tons.
Cutch	893	859
Kathiawar	1,045	10,785
Cambay	...	553
Gaikwar's Territory	...	53
Bombay	229	8,159

(*c*) From Arabia and Persian Gulf, Arabs come to Malabar with dates and other wares for selling and when returning purchase their timber requirements from the Mappilla timber merchants direct. Khan Bahadur V. H. Berami is the most influential timber merchant at Calicut and supplies most of the timber requirements of the Arabs.

(*d*) Kathiawar timber merchants have their agents at Calicut, Cannanore and Baliapatam, who purchase timber on commission basis. Very often such merchants come to Malabar during the season and make purchases direct. One reason how the outside merchants get their softwood requirements cheap from the Calicut merchants is given below for information. A Bombay timber merchant whom I met at Calicut, told me that the petty Mappilla timber traders when they are hard up will sell with practically no margin of profit. The same merchant who has contracted to supply large quantities of soft wood boards for chests and boxes told me that he generally paid As. 5 per c.ft. at the jetty for any soft wood log. After collecting a sufficient number of such logs he would get them sawn on the hire system ; charges on this score usually come up to As. $2\frac{1}{2}$ per c.ft. Other charges including loading a country craft will come to As. $1\frac{1}{2}$ per c.ft. Freight by country craft to Bombay will be another As. 4 per c.ft. Thus he would get his soft wood boards at As. 13 per c.ft. c.i.f. Bombay. Thus the general impecuniary condition of the average Mappilla timber merchant coupled with the generous Malabar measurement which allows for drag holes, fluting and flaws (wastage by loss in such logs being only 1 c.ft. per candy, hand-sawn) enable a man with ready cash to make very satisfactory purchase on the West Coast. Poon (*Calophyllum tomentosum*) boards of $9' \times 9'' \times 2''$ were obtained by another Bombay merchant by similar means at the low rate of Rs. 70 to Rs. 75, per ton of 50 cubic feet or Rs. 1-6-5 to Rs. 1-8-0 per c.ft. (A gentleman from Bombay, then at Calicut, complained to me that 25 per cent of the short logs which he had purchased from the Beypore Depot were rejected at Bombay on account of heart shakes.)

11. *Method of measurement.*—It would be interesting to note here the local method of measurement.

12. *Logs.*—First there are professional measurers and their decision in all disputes of measurements are final. They are also the authority to

decide what concession in measurement is to be granted for various kinds of flaws. Girths are measured by a string. The string is then folded four times to get the quarter girth. The quarter portion is then measured by a tape to the nearest inch. Fractions of an inch are always omitted. Length of logs is measured by a rod which is called a kole. The rod is divided into 24 virals which is equivalent to 28″. The length is then multiplied by the quarter girth square and thus the cubical content is arrived at. As is well known, their classification is by candy classes, each candy is equivalent to 13 c.ft.

13. Mr. Swamikutti's report on the sale of timber from private forests and the method adopted in measurements is given under as it is interesting :—

" Timber from private forests from Nilambur, Pudupadi and other places are brought to Kallai by petty timber merchants and are offered for sale to the merchants. The measurements are taken at Kallai and the seller allows the buyer 10 per cent discount in price and also gives him 1 per cent commission.

Some of these petty dealers prefer to sell the timber in the forest itself. That is, they buy the timber from the jenmies (land owners) on payment of the stump fees, fell the timber, bring it to the river side, make it into a raft and then come down to Kallai and take the timber merchant to the place, i.e., the jetty, and offer it for sale. The Kallai merchant measures such logs and takes in addition to the 10 per cent and 1 per cent described above a further concession of seven candies on 100 candies and also fixes the price at Rs. 2 per candy below the market rate of Kallai. He also agrees to buy the bamboos, reeds, etc., used in floating the raft and fixes a price for them. He then pays the man half the price of the timber calculated after deducting all commissions and discounts mentioned above and stamps his property mark on the logs. The advantage of selling the timber in the forest to the man is, that he generally has only small capital and when he gets a portion of the value for his logs he can buy more logs and prepare more rafts. The advantage for the buyer is that over and above the concession he gets, he can canvass orders for the timber while it is in transit.

The method of measuring logs at Kallai is as follows :—

The full length of the log is measured with a rod. The girth at the centre is measured with a string and it is divided into four parts and one part is measured and the cubical contents calculated. If the logs have a flute or a depression, the average depth of the depression is found out and $\frac{1}{3}$ of it is deducted from the quarter girth of the log. If there is only one depression the deduction from the quarter girth is made only for the length of the depression, but if there are several depressions, the deduction is made for the entire length of the log. If the log is fluted on more than one side, the deduction is made for the depressions on every side the log has depressions. That is, if the log has flutes on three sides, the depth of the depression on each side is found out and $\frac{1}{3}$ of it is deducted from the quarter girth.

In the case of cracks at the ends of the logs, a portion of the length is omitted from the measurement. The deduction of the length in measurement is proportionate to the severity of the crack. If the crack occurs throughout the entire width of the log, half the length occupied by the crack is deducted from the measurement. For smaller cracks deductions will be made proportionately.

In the case of hollows occurring in logs, the length of the portion occupied by the hollow is found out and the diameter of the hollow will be deducted from the quarter girth for the length occupied by the hollow. There are a few persons who generally measure timber and their decision for the deductions to be made for the flutes, cracks or hollows is generally accepted both by the purchaser and the buyer. Even this sometimes does not happen and the measurement at Kallai is very arbitrary and has no fixed rules but entirely depends on circumstances. It sometimes happens that a retail dealer brings timber to Kallai when the market is dull. The Kallai merchant then takes advantage of his position. The retail dealer will have no funds and consequently cannot afford to wait. The merchant then agrees to buy the timber at a low price and dictates his own terms regarding the deductions to be made for cracks, flaws, flutes, etc. But when the market is brisk and the floating season coming to a close the position is reversed and the retail dealer dictates his own terms. There are instances in which very little or no deduction is made for cracks, flaws, etc.

The measurements are in virals, koles and candies.

One kole is 24 virals and is equal to 28 inches.

In the case of sawn timber (one sawn kole which means one cubic kole) is one kole in length, 12 virals in breadth and 1 viral in thickness; 100 such sawn koles will be $26\frac{3}{4}$ c.ft. according to our measurement.

The following figures may be useful :—

1. Two and half candies (approximately) of round logs will be required to yield 100 sawn koles.

2. In sawing, account is generally expressed in square candies which is 66 sq.ft.

Three candies (198 sq.ft.) of sawing will be required for converting one candy of scantlings and in the case of planks five candies (330 sq.ft.) of sawing will be required to convert one candy of planks."

TELLICHERRY

14. There is just a small timber market here. Logs of Pillamarudu (*Terminalia paniculata*), Ainee (*Artocarpus hirsuta*), Jack (*Artocarpus integrifolia*), Bainavu (*Mesua ferrea*), Pali (*Dichopsis elliptica*), and Rosewood (*Dalbergia latifolia*) from the forests of Manatana, Peria, Wynaad and Kannoth are in demand. There is very little demand for scantlings. Nearly 200 waggons or 4,000 tons of logs of Bainavu (*Mesua ferrea*) generally used to be sold in round every year to Kolar Gold Fields. But of late, Kolar Gold Fields buys lot of *Terminalia tomentosa* logs from Mysore State and private forests at As. 14 to Re. 1 per c.ft. f.o.r. A certain quantity is sent to Calicut to be sawn up into sleepers. Pali (*Dichopsis elliptica*) is occasionally sawn up at Tellicherry if there are any orders from the Kathiawar merchants. Good Rosewood (*Dalbergia latifolia*) logs of 5′ and above in girth are exported to Europe. The timber merchants at Tellicherry generally advance money to fellers who pay stump fees to private forest owners and arrange to deliver logs at merchants' depot for a very small profit.

15. Their selling rates are as under :—

Species.	Rate of logs per			Scantlings per cubic foot.
	Candy.	Cubic foot.	Ton.	
	RS.	RS. A. RS. A.	RS. A. RS. A.	RS. A. RS. A.
1. Irul (*Xylia xylocarpa*) ...	18 to 22	1 6 to 1 11	69 4 to 84 10	2 0 to 3 4
2. Pillamarudu (*Terminalia paniculata*)	15 to 18	1 2 to 1 6	57 11 to 69 4	2 0 to 2 8
3. Ainee (*Artocarpus hirsuta*) ...	20 to 35	1 9 to 2 11	76 15 to 134 10	2 8 to 5 0
4. Jack (*Artocarpus integrifolia*)	20 to 35	1 9 to 2 11	76 15 to 134 10	2 8 to 5 0
5. Bainavu (*Mesua ferrea*) ...	15 to 28	1 2 to 2 2	57 11 to 107 11	...
6. Pali (*Dichopsis elliptica*) ...	15 to 18	1 2 to 1 6	57 11 to 69 4	...

The annual demand in Irul (*Xylia xylocarpa*) and Pillamarudu (*Terminalia paniculata*) is something like 1,500 candies each. The demand for the rest is very little.

CANNANORE

16. I did not meet any important timber merchant at Cannanore, but I met two Guzerati commission agents who supply sawn material to Kathiawar, Karachi and Cutch Mandvi. They buy their timber requirements (about 12,000 candies per year) from Baliapatam timber merchants. They buy Poon (*Calophyllum tomentosum*) scantlings at about Rs. 1–12–0 per c.ft., Pali (*Dichopsis elliptica*) at Rs. 1–10–0 to Rs. 1–13–0, Redpine (*Hardwickia pinnata*) at Rs. 1–8–0 to Rs. 1–10–0, Vellapine (*Vateria indica*) at Rs. 1–3–0, and Kalpine (*Dipterocarpus indicus*) at Rs. 1-12-0 to Rs. 1–14–0 per c.ft. Sizes in demand are 10′ to 15′ length and $3'' \times 1\frac{1}{2}''$, $3'' \times 2''$, $3'' \times 3''$, $3'' \times 4''$, $5'' \times 3''$, $6'' \times 3''$, $7'' \times 3''$, $8'' \times 3''$, $9'' \times 3''$, $5'' \times 4''$ and $6'' \times 4''$. These Agents receive a commission of 2 per cent for all their trouble. They receive their payments through Indian shroffs who charge

a commission of 1 per cent. (These Agents as well as some agents a Kasargod and Mangalore complained that owing to the discontinuance of selling logs at the Kasargod depot, they are unable to get their requirements in logs which they formerly used to buy in large quantity for Kathiawar markets.)

BALIAPATAM

17. Timber comes in large logs in round. They are brought by petty men from forest contractors who buy standing trees on payment of stump fees, log them in the forests and float them down to Baliapatam. The principal species, their approximate quantity, the buying and selling prices are as follows :—

Species.	Approximate annual demand in candies.	Buying price in logs per candy.	Selling price in c.ft. in sawn materials.
		RS. A. to RS. A.	RS. A. to RS. A.
1. Vellapine (*Vateria indica*)	25,000	10 4 to 11 8	1 4
2. Kalpine (*Dipterocarpus indicus*)	12,000	15 0 to 18 0	1 12 to 2 0
3. Redpine (*Hardwickia pinnata*)	7,000	10 0 to 17 0	1 8 to 2 0
4. Pali (*Dichopsis elliptica*)	7,000	14 0 to 16 8	1 10 to 1 11
5. Poon (*Calophyllum tomentosum*)	5,000	14 8 to 17 0	1 10 to 1 12
6. Hopea	1,000	18 0 to 25 0	3 0 to 3 8
7. Ainee (*Artocarpus hirsuta*)	800	17 0 to 22 8	3 0 to 3 8
8. Ebony (*Diospyros ebenum*)	100	30 0 to 75 0	Sold in logs only.
9. Rosewood (*Dalbergia latifolia*)	400	22 0 to 35 0	Sold in logs only.
10. Irul (*Xylia xylocarpa*)	2,000	18 0 to 21 8	3 0
11. *Terminalia paniculata*	4,000	13 8 to 15 8	2 0 to 2 4
12. Benteak (*Lagerstroemia lanceolata*) ...	2,000	12 0 to 18 0	2 0 to 2 4
13. Mango (*Mangifera indica*)	1,500	9 0 to 10 8	1 2 to 1 4
14. Red Cedar (*Cedrela Toona*)	150	15 0 to 16 0	Sold in logs only.
15. White Cedar (*Dysoxylum malabaricum*) ...	150	12 0 to 20 0	Sold in logs only.
16. Narivengai (*Acrocarpus fraxinifolius*) ...	100	13 0 to 15 0	2 1
17. Hard junglewood	4,000	12 0 to 14 0	1 8 to 1 10
18. Soft junglewood	10,000	4 0 to 6 0	1 0 to 1 4

The selling rates shown above are for delivery f.o.b. country craft. The logs are generally sold at a profit ranging from As. 4 to Re. 1 per candy over the buying rates. The sizes in demand are 2″×1½″, 3″×1½″, 3″×2″, 3″×3″, 4″×3″, 5″×3″, 5″×3½″, 6″×3″ and 6″×4″ and length of 10′ and up. Planks 12″ and up in width, 1″, 1½″, and 2″ in thickness, and length of 10′ and up.

18. *Acrocarpus* logs are sawn for kolmarams 15′×7″×3½″ and 15′×6″×3½″, and chattams 10′×7″×3″ and 10′×6″×3″. These are generally bought by Olavakkot people. About 5 lakhs of bamboos and 3 lakhs of reeds are generally brought and sold at Baliapatam. Some of the bamboos are split and sent to Karachi and Kathiawar. The selling rate of bamboos ranges from Rs. 125 to Rs. 175 per 1,000.

KOHINOOR SAW MILLS, LTD., BALIAPATAM

19. The principal shareholders are Alli Berami of Calicut and K. Kunhi Mian Haji of Tellicherry. V. Kadiri of Baliapatam has also shares, but has nothing to do with the management. The former two are managing directors. The mill saws timber on hire. They have recently started furniture making. During the rainy season the mill is closed down. The cost of running the mill including the pay of establishment but exclusive of interest on capital and depreciation is said to be Rs. 16,000 a year and the net revenue is Rs. 20,000. The last dividend was 7½ per cent. The mill was established five years ago and every year some improvements are made. The species generally sawn are Vellapine (*Vateria indica*), Redpine (*Hardwickia pinnata*), Kalpine (*Dipterocarpus indicus*), Pali (*Dichopsis elliptica*), Mango (*Mangifera indica*) and hard and soft junglewood species. The greater demand is for Vellapine (*Vateria*

indica) and Kalpine (*Dipterocarpus indicus*). The charges for sawing in the mill are :—

Scantlings and boards	... ...	Rs. 3–4–0 per candy of 13 c.ft. in the log.
For boards, $\frac{3}{4}''$ thick ...	... ...	Rs. 4–8–0
For boards, $\frac{1}{2}''$ thick ...	... ...	Rs. 6–8–0.

The mill also saws sleepers of hard junglewood species for supplying to the South Indian Railway. The mill is also hired at Rs. 500 a day of two shifts (day and night) and saws 175 to 200 candies in 24 hours. The above charges include lifting logs from the jetty, cross-cutting and stacking the sawn material in the premises.

20. As most of the logs supplied are round and cylindrical, the wastage comes to only 1 c.ft. in a candy. The one cubic foot need not be thought of as fictitious because the cubical contents of a cylindrical log is 21·5 per cent more than the volume calculated under quarter-girth measurement. Haji Alli Berami and A. K Kunhi Mian Haji own forests in Kuttiyur valley called Kallapalle, and also leased forests in Manatana. They get their timber sawn in the mill at the above rate. They have an office of their own in Bombay known as "The New Malabar Timber Agency, Pydonie, Khadack." As the loaded country crafts come into Bombay jetty, the man at Bombay sells the whole lot on a small margin of profit. The cost of delivery of the logs from the jungle to the saw mill comes to As. 12 to Re. 1 per c.ft. Though there is a saw mill at Baliapatam, still certain amount of hand-sawing is also being done. People prefer mill-sawn material to hand-sawn material on account of quick work and straight cuts.

21. Freight by country craft to Bombay is Rs. 8 to 12 per ton of 50 c.ft., and to Karachi Rs. 14 to Rs. 17–8–0. Rates generally go up during the end of the season, i.e., April and May.

KASARGOD

22. There are not very many timber merchants. All business is generally done by Sri Lakshmi Mills, Kasargod. The following table gives details of annual demand, rate of supplies and selling rates :—

Species.	Annual demand appx. in c.ft.	Rate of supplies per c.ft. in logs.	Selling rates per c.ft. in scantlings.
	RS.	RS. A. P.	RS. A. to RS. A.
1. Teak (*Tectona grandis*)	5,000	1 14 0	3 0 to 4 8
2. Benteak (*Lagerstroemia lanceolata*) ...	8,000	0 10 0	1 14 to 2 4
3. Mathi (*Terminalia tomentosa*)	3,000	0 10 0	2 0 to 2 4
4. Rosewood (*Dalbergia latifolia*)	1,000	0 13 0	3 0 to 3 8
5. Pillamarudu (*Terminalia pauiculata*) ...	10,000	0 8 0	1 12 to 2 0
6. Albizzia odoratissima	500	0 8 0	1 14 to 2 0
7. Pala (*Alstonia scholaria*)	500	0 3 0	1 0
8. Vateria indica	500	0 3 0	1 0
9. Pterocarpus marsupium	200	0 9 0	1 14 to 2 0
10. Irul (*Xylia xylocarpa*)	2,000	0 10 0	2 0 to 2 4
11. Hopea	500	0 13 0	2 0 to 2 4

The mill is worked by a crude oil-engine, 18 h.p. It is used for extracting oil from coconuts and also for sawing timber. There are two circular saw-benches of 12″ and 13″ diameter, one cross-cutting bench, 1 planing bench, one saw-sharpener and one wood-working lathe. The outturn of the mill is 200 c.ft. of scantlings or 150 c.ft. of boards per day. The wastage in the conversion of logs is nearly 30 per cent. The proprietor complained that before the establishment of the Government Saw Mill at Parappa, they use to buy all logs from Kasargod Government Depot either in retail rate or by tender or in auction to supply Kathiawar and Mangalore. Now he is forced to buy logs from Beypore, Coondapur and other places and consequently he is unable to sell sawn

material cheap, owing to heavy transport charges. The demand is therefore less and so also the profit. The mill also saws logs according to orders. The mill keeps a stock of scantlings to meet urgent demands. The scantlings in demand are 4″ × 2″, 5″ × 3″, 6″ × $1\frac{3}{4}$″, 4″ × 3″, 6″ × 2″, 6″ × 3″, 6″ × 4″, and 7″ × $4\frac{1}{2}$″ and lengths of 10′ and up. The boards in demand are 6′ and up in length and 12″ and up in width and 1″, $\frac{7}{8}$″ and $1\frac{1}{4}$″ in thickness.

23. *Alstonia scholaris and Vateria indica* boards are bought in Mangalore for packing cases. The proprietor also makes furniture on a small scale and takes building contracts. Reepers of 2″ × 1″ are sold in lengths of 4′, 4′ to 8′ and 8′ to 20′ at a rate of Rs. 35, Rs. 50 and Rs. 65, respectively for 1,000 koles (kole=28 inches). The reepers are not classified into species, but all species are mixed. The cost of railing logs and scantlings from Kallai and Feroke to Kasargod is As. 4 a c.ft. and cost from Coondapur to Kasargod by country craft is As. 6 a c.ft.

24. I have taken the opportunity of visiting the Parappa Saw Mill and inspecting the Kasargod depot. From what information I could gather, I was told that there was not enough demand at Kasargod for scantlings, whereas there was a demand quite close by in Mangalore. It is therefore suggested that as an experiment some standardized scantlings to suit Mangalore merchants and public, may be transported by country crafts or by rail whichever is cheaper to the Mangalore sale depot. The material at Kasargod when compared with that of Beypore and Olavakkot seems to me of inferior quality except Pillamarudu (*Terminalia paniculata*).

MANGALORE

25. There are about seven important timber merchants. The timber merchants in Mangalore generally meet their requirements in taking lease in private forests, Mysore Forests and occasionally buy from Baliapatam and Coondapur. They also buy logs and scantlings from people who buy standing trees in private forests which are felled and converted into log and scantlings in the jungle only. The sizes in demand are 4″×3″, 5″×2″, 5″×3″, 6″×3″, 6″×4″, 6″×2″, 7″×5″, 8″×6″, 12″×10″ and 15″×12″. They are generally 12′ to 20′ in length. The sizes popularly in demand are as underlined. Plants 12″ and above in width and 1″ in thickness are also in great demand. Lengths of 12′ to 20′ scantlings, and planks of 6′ and up are greatly preferred. White Cedar (*Dysoxylum malabaricum*) and Red Cedar (*Cedrela Toona*) are generally sawn into ceiling boards $\frac{1}{2}$″ thick. Ainee (*Artocarpus hirsuta*) planks are also in good demand. Xylia, Mathi (*Terminalia tomentosa*) and Hopea scantlings are more in demand than other species. Logs are generally hand-sawn and the percentage of wastage is 30 to 35 in good logs and 50 per cent in unsound logs. Sawing charges are paid at the rates of Rs. 22 to Rs. 25 per kodi of 240 koles. This comes to 780 sq.ft. or 65 c.ft. Over this, sawyers are paid Rs. 1–2–0 per candy for carting logs to the depot and hoisting. Thus the sawing charge works out to As. 7 a c.ft. All timber received in Mangalore is consumed locally. The rate for the transport of timber from Coondapur to Mangalore is Rs. 2–4–0 a candy.

26. The following table shows the approximate annual demand, the rate of supplies and selling rate for the various species :—

Species.	Annual demand in candies.	Rate of supplies in log per candy.	Selling rate in scantling per c.ft
		RS.	RS. A. RS. A.
1. Mathi (*Terminalai tomentosa*)	12,000	13 to 16	2 0 to 2 6
2. Xylia	11,000	12 to 15	1 8 to 2 6
3. Benteak (*Lagerstroemia lanceolata*)	1,000	10 to 12	1 8 to 2 0

Species.	Annual demand in candies.	Rate of supplies in log per candy.	Selling rate in scantling per c.ft.
		RS.	RS. A. P. RS. A. P.
4. Vengai (*Pterocarpus marsupium*)	100	...	1 8 0 to 2 4 0
5. Hopea	1,700	14 to 17	2 0 0 to 2 6 0
6. Ainee (*Artocarpus hirsuta*)	350	16 to 17	2 4 0 to 2 8 0
7. Jack (*Artocarpus integrifolia*)	350	20	2 4 0 to 2 12 0
8. Pillamarudu (*Terminalia paniculata*)	1,800	9 to 10	1 4 0 to 1 12 0
9. Teak (*Tectona grandis*)	600	20 to 30	3 0 0 to 5 0 0
10. Miscellaneous	1,000	7 to 13	1 0 0 to 1 8 0

27. There is a company called R.T. Co., dealing in exporting cashew nuts. They buy annually several thousands of packing cases of the sizes of kerosene oil cases from Cochin merchants at As. 12 per case. The company wanted to buy some packing cases from the Forest Utilization Officer, but as our rates were higher, the business fell through.

COONDAPUR

28. There is a Forest Government depot at Coondapur. Logs of Benteak (*Lagerstroemia lanceolata*), *Terminalia paniculata*, Ainee (*Artocarpus hirsuta*), Xylia, *Calophyllum Wightianum*, Rosewood (*Dalbergia latifolia*), *Albizzia odoratissima*, *Vitex altissima* and *Terminalia tomentosa* are sold annually to an extent of 16,000 c.ft. in public auction. Timber merchants from Goa also attend the sales. They generally buy Mathi (*Terminalia tomentosa*), Benteak (*Lagerstroemia lanceolata*) and Irul (*Xylia xylocarpa*) in logs. It costs As. 3 per c.ft. by country crafts to Marmagoa excluding loading charges. Kanara Rice and Saw Mills also purchase from this depot and from depots at Hangarakatta in Bombay Presidency. Logs are generally bought from the depots at the rate of As. 11 and As. 9 per c.ft. Good selected logs of Mathi (*Terminalia tomentosa*), Hopea and Xylia are sometimes bought at Rs. 10–4–0 to Rs. 12–8–0 per candy. Scantlings sawn in the saw mill are sold at Rs. 2–4–0, Rs. 2–8–0 and Rs. 2–12–0 per c.ft. for Irul (*Xylia xylocarpa*), Hopea, and Mathi (*Terminalia tomentosa*) respectively. Half inch and $\frac{3}{4}''$ boards are sold at Rs. 3–8–0 and Rs. 2–13–0 per c.ft. respectively. One inch boards of Benteak (*Lagerstroemia lanceolata*), Wild Jack (*Artocarpus integrifolia*) and Rosewood (*Dalbergia latifolia*) are sold at Rs. 2–8–0, Rs. 3–8–0 and Rs. 5–8–0 per c.ft. Reepers of Hopea, Mathi (*Terminalia tomentosa*) and Irul (*Xylia xylocarpa*) from 8′ to 15′ lengths are sold at Rs. 75 per 25,000 r.ft., and of over 15′ at Rs. 92. There is no demand for reepers under 8′ length. Reepers of other species are sold at Rs. 5 less than the above rates. The mill consumes on an average 25,000 c.ft. of logs annually. Wastage is about 42 per cent. All sawn scantlings are sold at Mangalore, and it costs 1 anna per c.ft. plus 6 pies port dues to send them to Mangalore by country craft. To send logs it costs As. 4 per c.ft. Species most in demand are *Hopea*, *Terminalia tomentosa*, Benteak (*Lagerstroemia lanceolata*) and Teak (*Tectona grandis*). The cost of production of this mill works out to As. 10 per c.ft. The mill saws timber for private persons and charges Rs. 28 per kodi or 65 c.ft. Standardized scantlings are $5''\times3''$, $4''\times3''$, $5''\times2''$, $4''\times2''$, $6''\times3''$, $6''\times4''$, $7''\times3\frac{1}{2}''$ and $3''\times2''$, and lengths 10′ and above. Boards and planks are generally 10″ and up in width and $\frac{1}{2}''$, $\frac{3}{4}''$ and 1″ in thickness.

29. Good deal of fuel of 3′ billets having 36″ girth is taken to Bombay for sale. Smaller billets are taken to Mangalore and sold at Rs. 30 per ton.

30. *Terminalia paniculata* battens of $18'\times2\frac{1}{2}''\times\frac{5}{8}''$ and $11'\times2\frac{1}{2}''\times\frac{5}{8}''$ are in great demand in tile-factories for making frames. Each frame requires 5 battens and 5,000 battens are sold at Rs. 175. In addition there

is one small batten of Benteak (*Lagerstroemia lanceolata*) in the frame of $18'' \times \frac{3}{4}'' \times \frac{3}{4}''$.

BOMBAY PRESIDENCY

KANARA COAST DIVISION

31. This division had a depot at Gangavalli for about a year, but it had to be soon closed as the Port was difficult to approach by timber merchants in country craft. This division supplies annually 10,000 M.G. Teak (*Tectona grandis*) sleepers to Madras and Southern Mahratta Railway, delivery at Marmagoa. Contractors undertake to fell trees in the jungle, saw them into sleepers and deliver them at a place called "Ullare" at the rate of Rs. 2-12-0 for every first-class passed sleeper. Sleepers are passed by the District Forest Officer. All rejected sleepers are not paid for to the contractor, but on the other hand they are sold to him at As. 6 each. Railway pays Rs. 4-4-0 per sleeper delivery at Marmagoa. It costs As. 3 per sleeper to send it by country craft, from Gangavalli harbour to Marmagoa. In addition there are second-class sleepers for which Railway pays Rs. 3 per sleeper. Such sleepers contain 10 per cent of sapwood, holes and cracks, but the place of seating is sound. All good logs are sent to Hattikerri depot for sale, which is in charge of South Kanara Division.

KANARA SOUTH DIVISION

32. All particulars regarding the average annual rates are given in Appendix III. All logs are sold at Hattikerri depot. Logs are long and of excellent quality. The work of felling, extraction and carting is done by contractors who are paid at the rate of Rs. 12 per candy, delivery at the depot. The forests are 40 miles away from the depot, and cartmen are able to perform three trips per month. From unsound teak (*Tectona grandis*) trees, sawn and hewn scantlings are prepared in the jungle. The contractor is paid Rs. 1-4-0 per c.ft., delivery at the depot. These are sold at Rs. 2 to Rs. 2-4-0 per c.ft. Great difficulty is experienced in disposing of these scantlings. Rs. 2-6-0 was offered for $15' \times 6'' \times 4''$ scantlings, but it was not accepted. Two-thirds of the scantlings are sawn and one-third are hewn. The usual size of the scantlings are $6'' \times 4''$, $7'' \times 4''$, $8'' \times 3''$, $4'' \times 4''$ and $6'' \times 3''$. Length varies from 5′ to 10′ and few 15′. In all there are at present 450 candies of scantlings lying unsold under the shade in the depot. This division also supplies teak (*Tectona grandis*) sleepers, delivery at Marmagoa. Contractors are paid Rs. 2 per sleeper delivery at the depot. The nearest port for this depot is Bellikerri. From this port the freight by country craft is Rs. 2-8-0 to Rs. 3 per candy to Bombay, and Rs. 5 to Rs. 6 to Kathiawar.

33. The logs at this depot are classified into three classes. In measurements they allow a concession of ·33 c.ft. for every drag-hold and 1 to 4 c.ft. for flutedness, hollows and cracks. This is decided by Rangers and Foresters. Trees are girdled five years in advance before felling. Mostly teak (*Tectona grandis*) and Mathi (*Terminalia tomentosa*) are extracted, because it does not pay to extract the other species.

KANARA WEST AND EAST DIVISIONS.

34. The depot common to these divisions is at Kodibag, 3 miles away from Karwar proper. It is the most important depot and is in charge of a ranger, 1 forester and 3 forest guards. It deals with 7,500 candies of timber annually. It is easily accessible to merchants from Bombay and Kathiawar and country crafts can go right through near the depot. All particulars of timber transactions showing the species, the annual average selling rates are appended (vide Appendix III). Logs of West Division

are squared and are of the same quality as the Wynaad logs. The forests are nearly 50 miles away from the depot, 30 miles by road and 20 miles by river. Contractors are paid Rs. 13 per candy for felling, rough squaring, dragging, carting, floating and arranging the logs at the depot. The contractors keep their own elephants.

35. East Division logs are all round and long, and of good quality. It is mostly Teak (*Tectona grandis*). It was noticed at the depot that rough squared logs developed bad cracks on exposure to sun, whereas the round logs were sound. West Division has therefore decided to extract Teak (*Tectona grandis*) logs in round only.

36. Freight to Bombay by country craft is Rs. 2-8-0 to Rs. 3 and to Kathiawar Rs. 5 to Rs. 6 per candy. West Coast Division supplies about 15,000 M.G. sleepers annually to Madras and Southern Mahratta Railway at Marmagoa. Contractors are paid Rs. 1-12-0 and Re. 1 for first-class sleepers and second-class sleepers, respectively.

37. The appended statements (vide statement in Appendix II) show the export of timber from Kodibag and Bellikerri depot to various ports on the West Coast.

GOA

38. The important places which deal in timber trade are Panjim, Marmagoa, Kandaleum, Verum and Kurtarrem. The timber merchants generally purchase most of their timber from the Karwar Division depots at Hattikerri and Kodibag. They also buy sometimes from Coondapur and Kasargod depots. On enquiry these merchants told me that they cannot purchase scantlings anywhere outside Goa under any circumstances, because the customs duty is 4 pies per r.ft. on scantlings of any form, whereas for logs, the duty is only Rs. 1-0-4 per candy. These merchants are bad paymasters and so nothing can be given to them on credit. The Kasargod Mill owner and the Kanara Mills, Coondapur, sell logs to these merchants on credit of six months. The approximate annual requirement of timber is—

Species.	Candies.	Cubic feet.	Tons.
1. *Terminalia paniculata* (Kindal)	12,000	156,000	3,120
2. Mathi (*Terminalia tomentosa*)	12,000	156,000	3,120
3. Teak (*Tectona grandis*)	2,000	26,000	520
4. Irul (*Xylia xylocarpa*)	2,000	26,000	520
5. Benteak (*Lagerstroemia lanceolata*)	1,000	13,000	260
6. Rosewood (*Dalbergia latifolia*)	500	6,500	130

Every merchant saws up logs into scantlings according to order and sells Teak (*Tectona grandis*) at Rs. 3 to Rs. 4-8-0 per c.ft. and other species at Rs. 2 to Rs. 2-8-0 per c.ft.

RATNAGIRI

39. There is only one big merchant by name "Nana Yesur Surve" who is a Government contractor as well as a boat builder. For boat construction, planks of 10′ to 30′ length, 1′ width and 1″ to 2″ thickness are required. He prefers to saw his own logs at a cost of As. 4 to As. 8 a c.ft. He buys most of his timber from the Government depots at Kodibag and Hattikerri. This merchant was of opinion that at Kodibag, Teak (*Tectona grandis*) was as good as Moulmein teak and is superior to Hattikerri teak though I did not notice any difference at these depots. It costs him Rs. 3 per candy to transport these logs to Ratnagiri. He was of opinion that owing to the variation in the size of the scantlings in

demand it was not worthwhile to buy timber in scantlings elsewhere. His annual requirement is—

Species.	Candies.	Cubic feet.	Tons.
1. Teak (*Tectona grandis*)	3,000	39,000	780
2. Mathi (*Terminalia tomentosa*)	125	1,625	32·5
3. Benteak (*Lagerstroemia lanceolata*)	75	975	19·5

He sells them in scantlings at Rs. 4-8-0 to Rs. 5 per c.ft. for Teak (*Tectona grandis*), and Rs. 2-12-0 to Rs. 3-4-0 per c.ft. for Mathi (*Terminalia tomentosa*) and Nandi (*Lagerstroemia parviflora*). Though he is a boat builder, he does not believe in using Poon (*Calophyllum tomentosum*) masts, but instead uses Teak (*Tectona grandis*) poles of 40′ to 30′ lengths and 1′ diameter. There is not much demand for spokes and felloes.

BOMBAY

40. In Bombay, of all the timbers imported for house construction, furniture and all engineering works, Burma teak from Rangoon, and Moulmein, takes the first place. Also Siam teak from Bangkok, and Sigon teak from Sigon, capital of Indo-China, are brought to Bombay in lesser quantities than Burma teak. The timber is imported in logs of selected quality, i.e., first-class quality, second-class quality and also other inferior qualities. The specifications are mostly 10″ × 10″ and 15′ and up, or 12″ × 12″ and 15′ and up. As an average the rate for selected quality varies from Rs. 260 to Rs. 285 per ton, first class from Rs. 225 to Rs. 250 and second class from Rs. 160 to Rs. 200. In scantlings and planks all the marketable sizes are $1\frac{1}{2}'$ to $2\frac{1}{2}'$ long, 3′ to 5′ long and 6′ and up, with an average generally of 8′. An idea of the price realized in Bombay can be had from the sale lists of the Bombay-Burma Trading Co., Ltd. (copy of sale lists are appended—vide Appendix IV). In the sale lists I have noted our selling rates at Beypore to facilitate comparison.

41. Sleepers for main line and also crossing sleepers are supplied to different railways. It may be mentioned that almost all the Teak (*Tectona grandis*) from well-known Burma firms whether in log form or in scantlings form is stamped at the end with their respective hammer marks, viz., Bombay-Burma with B.B.T.C.L. Steel Bros. with Steel, Macgregors with D.M., and so on, and the buyers are very particular about these hammer marks ; and timber locally cut from logs, etc., without the hammer marks do not command any appreciable sale.

42. Other indigenous timbers that are brought to Bombay are :—

(1) *Vateria indica* (Vellapine).
(2) *Karwar teak* (*Tectona grandis*) in logs.
(3) *Acacia arabica* (Babul).
(4) *Adina cordifolia* (Haldu).
(5) *Bombax malabaricum* (Semul).
(6) *Calophyllum tomentosum* (Poon).
(7) *Cedrela toona* (Red Cedar).
(8) *Dalbergia latifolia* (Rosewood).
(9) *Dysoxylum malabaricum* (White Cedar).
(10) *Lagerstroemia lanceolata* (Benteak).
(11) *Mangifera indica* (Mango).
(12) *Terminalia tomentosa* (Mathi).

All these timbers with the exception of first item are brought in very small quantities.

43. No. 1 is used in large quantities for concrete work, scaffolding, etc., in Bombay and is available here in sizes of $7\frac{1}{2}'' \times 1\frac{1}{2}''$, 12″ × 1″, 12″ × 2″, 4″ × 3″, 5″ × 3″, 6″ × 3″, etc., and 10′ and up in length at an average rate of Rs. 75

to Rs. 85 per ton. It is also imported in scantling sizes 4″ × 3″, 5″ × 3″, 3″ × 3″, 6″ × 3″, and 10′ and up in length. Bailing ribs of 2″ × ½″, 1½″ × ½″ and 2″ × 1″ are sold at Rs. 60 per ton. It is also used for rough temporary railway sleepers. During the season of nine months practically one craft of 50 tons arrives every day to Bombay from Malabar, i.e., 13,500 tons annually. I was given to understand that some of it goes from Travancore also. I would not be surprised if some soft white woods are also sent mixed with *Vateria indica*. However, according to the Madras Customs figures only 8,159 tons of other species is imported to Bombay, so the figure of 13,500 tons given to me by merchants seems exaggerated.

44. No. 2 is used for house-building and furniture, but in small quantity. The well-known firm of Mackenzie & Co. of Bombay are the greatest buyers of this timber.

45. No. 3 is mostly used by the Great Indian Peninsular and Bombay Baroda and Central India Railways and they consume annually 500 tons.

46. Nos. 4, 6, and 10 are cut up from logs and sometimes bought in scantling form in Malabar and used for building country crafts. Poon (*Calophyllum tomentosum*) scantlings are generally sold at a rate of Rs. 130 per ton.

47. No. 5 is issued for making cases and splints for matches by some match factories who do not import Aspen logs from Japan and Sweden for the same purpose. It may be mentioned here that Aspen logs are bought by match factories mostly from Japan at the rate of Rs. 75 to Rs. 85 per ton.

48. Nos. 7, 8 and 9 are used in negligible quantity for furniture making.

49. No. 11 is used for concrete works, scaffolding planks, etc., and is imported in large quantities from Malabar and is sold locally at Rs. 65 to Rs. 75 per ton.

50. No. 12 is sometimes used for earth waggons and for reclamation works.

51. As against these indigenous timbers, the foreign timbers which are in good demand and command a good sale are—

(1) Engwood (*Dipterocarpus tuberculatus*) from Burma.
(2) Mygang from Bangkok.
(3) Jarrawood (*Eucalyptus marginata*) from Australia.
(4) White Pine (*Pinus laricio*) from Austria,
(5) Oregon Pine (*Pseudotsuga Douglasii*) from Canada.

Nos. 1 and 2 are two different types of junglewood. The Eng is sold in logs at about Rs. 100 to Rs. 110 per ton and Mygang at Rs. 120 per ton though it has to pay a duty of 15 per cent.

52. Jarrahwood (*Eucalyptus marginata*) is mostly used by railway for sleepers and fetches a rate of Rs. 3–4–0 to Rs. 3–6–0 per c.ft. in sleeper sizes.

53. White Pine (*Pinus laricio*) from Austria is sold for Rs. 95 to Rs. 98 per ton and mostly used for concrete work, packing cases, etc. The annual import must be about 1,000 tons.

54. Oregon Pine (*Pseudotsuga Douglasii*) is available in long lengths say 16′ to 40′ and is sold in planks 12″ width of different thickness at Rs. 115 to Rs. 120 per ton, mostly used by ship-builders and for temporary railway bridges, etc. Annual import is about 1,000 tons.

55. Hard wood and jungle wood species mostly imported from Baliapatam is sold in scantlings at the rate of Rs. 2 per c.ft. and soft wood species at Rs. 1–14–0 per c.ft.

56. *Three-ply-wood*, which is imported from foreign countries and specially from America, is sold from the rate of As. 1-6 to As. 2 per sq.ft. and above.

57. Expenses incurred by country craft from Malabar to Bombay per ton are :—

Carting at Calicut	Re. 1 per ton.
Boat hire	Re. 1 ,,
Other expenses	As. 8 ,,
Freight to Bombay	Rs. 7 to 12 for scantlings.
Do.	Rs. 14 to 18 for logs.
Hooping with iron	Rs. 1-8-0.
Carting at Bombay	Re. 1.
Wharfage and town duty	Rs. 1-8-0.

The statement showing the quantity of timber imported into and exported from the port of Bombay from and to coast ports during the official year 1926-27 :—

Port or province.	Imports.		Exports.	
	Teakwood.	Other timber.	Teakwood.	Other timber.
	C. TONS.	C. TONS.	C. TONS.	C. TONS.
Bengal—Calcutta	...	128	...	...
Madras—Other ports	180	5,883	1	2
Burma—Rangoon	35,525	64	...	...
Burma—Other ports	14,065	416	...	...
Sind—Karachi	9	33	..	6
British ports within the Presidency.	3,728	980	1,324	722
Cutch		5	42	13
Kathiawar	...	125	4,021	190
Foreign Konkan	...	14	43	...
Gaekwar's territory	...	...	46	1
Cambay	...	...	366	151
Goa	...	...	3	4
Diu	...	...	1	4
Total ...	53,507	7,648	5,847	1,093

58. Mackenzie & Co., at Bombay, are prepared to take a consignment of one country craft each of teakwood and jungle wood in various scantling sizes to try out our timber in the Bombay market or make supplies to the Railways.

59. Pestonji Jamasji & Co. are in need of good many Poon (*Calophyllum tomentosum*) logs in order to supply to a particular company provided their tender is accepted. This will take effect sometime next year.

60. For furniture making Mackenzies are very particular to have figured Teak (*Tectona grandis*) and if during our sawing, any teak log is found to be figured, it may be kept for sale to Mackenzies who are prepared to pay a very good rate. Similarly they want figured Mathi (*Terminalia tomentosa*) and Rosewood (*Dalbergia latifolia*) of light colour. It would be better to invite a representative of this firm and show him round all our depots in order to give him some idea of the quality and quantity of timber we stock.

61. There are some saw mills on Tank-Bunder, but they simply do job work. They don't do their own timber business but simply saw timber on hire. As the timber business is very slack, most of the saw mills are idle.

62. Owing to general depression in trade and the money market being very tight, there is no progress whatever in the way of construction of new buildings. People as a rule, now care more for the *cheapness of the material than for its quality.*

63. Owing to the shortage of time I could not see many merchants, but the few I met have given me the best of information which I have reproduced above.

KARACHI.

64. The species most in demand are Teak (*Tectona grandis*), Kalpine (*Dipterocarpus indicus*), Poon (*Calophyllum tomentosum*), Pali (*Dichopsis elliptica*) and other foreign species. Other red heavy junglewood species are generally mixed up and passed on as Kalpine (*Dipterocarpus indicus*).

65. Teak (*Tectona grandis*) is generally imported from Burma.

66. Mathi (*Terminalia tomentosa*) which is known in Karachi as "Bulsar Sajario" is imported in large quantity from the Government forests of Bulsar and Suratdangs.

67. Sweden exports good deal of ceiling boards, Austria exports Pinewood (*Pinus laricio*), and Burma Eng wood (*Dipterocarpus tuberculatus*).

68. The wholesale merchant buys Malabar timber at the following rates:—

(1) *Logs*—

Kalpine (*Dipterocarpus indicus*)	Rs. 25 to Rs. 27 per candy.
Benteak (*Lagerstroemia lanceolata*)	Rs. 26 to Rs. 32 ,,
Pali (*Dichopsis elliptica*) and Poon (*Calophyllum tomentosum*)	Rs. 20 to Rs. 22 ,,
Hard Red junglewood	Rs. 17 per candy.
Rosewood (*Dalbergia latifolia*)	Rs. 40 to Rs. 45 per candy.

(2) *Scantlings*—

Poon (*Calophyllum tomentosum*), Pali (*Dichopsis elliptica*) and Kalpine (*Dipterocarpus indicus*) at Rs. 115 per ton.

Mango (*Mangifera indica*) plank 14″×1½″ at Rs. 130 per kodi (580 feet length).

Mango planks, 13″×1½″ at Rs. 100.

Mango planks, 12″×2″ at Rs. 120.

(3) Planks of Pali (*Dichopsis elliptica*) and Kalpine (*Dipterocarpus indicus*), 11″×1¼″ at Rs. 115 per kodi.

The above articles are sold to petty timber merchants at a profit of 5 per cent to 10 per cent according to demand.

69. The standard sizes of scantlings are 3″×1½″, 3″×3″, 3″×2″, 4″×3″, 4″×4″, 6″×3″, 6″×4″, 8″×4″, 7″×4″, 12″×2″, 12″×3″ and 12″×1″, length 10′ and above. Under 10′ lengths are bought and sold at 40 per cent less than the above rates.

70. Bulsar Sajario or Mathi (*Terminalia tomentosa*) poles are sold from Rs. 15 to Rs. 70 per 20 pieces. The length varies from 15′ to 22′ and the diameter at the butt end from 2½″ to 8″.

71. Fir-wood of Jalem also known as Multan Devadhar is imported to some extent at Karachi and sold at Rs. 10 per piece of 16′×12″×6″. Teak (*Tectona grandis*) scantlings most in demand are 3″×1¼″, 4″×1½″, 6″×1½″, 8″×1½″, and lengths of 4′ to 8′ are sold at Rs. 5-4-0 a c.ft. free from sapwood. If mixed with sapwood, the rate is Rs. 4 to Rs. 4-8-0 per c.ft. There is also great demand for sizes 6′ to 15′×5″×3″ and 7′ to 9′×4″×1½″ for door and window frames.

72. Teak (*Tectona grandis*) logs free from sapwood are bought at Rs. 200 per ton, and with sapwood Rs. 150 per ton.

Selling price of teak planks are:—

Width.	Thickness.	Rate per c. ft.	Thickness.	Rate per c. ft.
Length 6′ and up		RS. A. P.		RS. A. P.
10″ to 11″ ...	$1\frac{1}{8}''$, $\frac{5}{8}''$, $1\frac{1}{4}''$	5 12 0	$\frac{1}{2}''$ and $\frac{3}{4}''$	6 8 0
12″ to 14″ ...	1″	6 8 0	Do.	7 0 0
15″ to 17″ ...	1″	7 0 0	Do.	7 8 0
18″	1″	8 0 0	Do.	8 8 0

Under 6′ lengths are charged As. 8 to As. 12 less per cubic foot.

73. *Gauge sizes.*—15′ to 22′ length × 5″×5″ at Rs. 6-8-0 to Rs. 8 per cubic foot.

74. *Sleepers.*—8′ to 12′×8″×4″ at Rs. 5-8-0 to Rs. 6-8-0 per cubic foot.

75. *Country craft freight*—

From Malabar to Karachi—

Planks, Rs. 20 per kodi (580′ lengths).
Scantlings, Rs. 15 per ton.
Round logs, Rs. 7-8-0 per candy.
Bamboo vanjees (bundles), Rs. 55 per 100 bundles.
Insurance 2 per cent of the value of the material.

Expenses at Malabar—

Round logs, As. 12 per candy.
Planks, Rs. 5 per kodi.
Scantlings, Rs. 5 per ton.
Bamboo vanjees, Rs. 2 per 100 bundles.

Expenditure at Karachi—

Scantlings—

Dock fees, As. 13 per ton.
Municipal fees, Re. 1 „
Cart hire, Rs. 2 „
Unloading the craft, Re. 1 „
Measurement of logs, As. 12 „
Brokerage, As. 8 „

Bamboo bundles per 100—

Dock fees, Rs. 2-8-0.
Unloading, Rs. 2.
Cart hire, Rs. 5.
Brokerage, As. 8.
Municipal town fee, As. 8.

Bamboo vanjees.—A vanjee is a bundle of split bamboos containing 50 pieces of 14′ length and 1½″ to 2″ width.

First quality vanjee, which contains full 50 pieces, is bought at the rate of Rs. 200 per 100 vanjees. It costs nearly Rs. 100 to bring it to Karachi from Malabar. It will be sold at a wholesale rate at Rs. 325 per 100 vanjees.

Quality No. 2 has 30 full pieces and 20 broken pieces. These are bought at a rate of Rs. 160 per 100 vanjees and it costs about Rs. 55 to bring it to Karachi from Malabar. Selling price is about Rs. 220. There is a great demand for these vanjees and they are imported in good quantity from Malabar as well as Bulsar and Surat.

76. Karachi annually imports—

(1) Teak (*Tectona grandis*) from Burma to the extent of 8,063 tons valued at Rs. 14,13,686.

(2) Junglewood from Madras ports to the extent of 5,103 tons valued at Rs. 5,17,000. Fifty per cent of it is said to be Mango (*Mangifera indica*) planks.

(3) Species not known in port, from Kathiawar 283 tons valued Rs. 23,836.

77. Nusserwanjee & Co., a prominent merchant, have promised to push specially Malabar teak into the Karachi market as well as to supply to the North-Western Railway, to Sukkur Barrage Scheme, to Port Trust and other firms. They want samples of Malabar teak in order to satisfy themselves as to how it compares with Burma teak. They have their own saw mill where they cut up timber into various sizes according to their requirements. They take large contracts to supply timber to various companies. It is a Parsi firm with good capital and is quite reliable for transacting any kind of business.

78. Plenty of Poon (*Calophyllum tomentosum*), Pali (*Dichopsis elliptica*) and Kalpine (*Dipterocarpus indicus*) planks were made use of as building flooring, but at present there is very little demand for them, because such floorings could be made cheaper with reinforced concrete.

PORBUNDER

79. *Teak.*—The sizes in demand are 3″×1½″, 3″×2″, 3″×3″, 4″×3″, 4″×4″, 5″×3″ and 6″×3″ and lengths 10′ to 30′. Very little demand for under 10′. The sizes underlined are more in demand.

(*a*) *Boards and planks.*—6″×1″, 8″×1″, 9″×1″, 10″×1″, 8″×2″ and 12″×1″, length 10′ to 30′ are in demand.

The buying rate of scantlings is Rs. 1–14–0 to Rs. 2–12–0 per cubic foot, and planks Rs. 1–12–0 to Rs. 3 per cubic foot. About 250 tons of Malabar teak were imported during 1927–28. In quality this appears to me to be inferior in comparison with Beypore depot teak scantlings. The scantlings were bought from Mappilla merchants who evidently saw them up from cut-offs after taking out the best material for supplying elsewhere. Here again on pointing out to the merchants that we could supply better quality than what they buy from these Mappillas, they gave me understand that people care more *for the cheapness of the material than for the quality*.

The timber merchants buy in Malabar unsized teak scantlings in big lots at the rate of Rs. 1–2–0 to Rs. 1–10–0 per c.ft., sort them out into sizes at Porebunder and sell them at a good profit. About 150 tons of such unsized scantlings are imported every year.

Scantlings are sold from Rs. 2–12–0 to Rs. 3–8–0 per cubic foot and planks at Rs. 3 to Rs. 4 per c.ft. Teak logs from Karwar are also bought and brought here. One gentleman has got a monopoly of Rangoon teak and brings in shiploads direct.

(*b*) *Junglewood.*—A small quantity of Mathi (*Terminalia tomentosa*), Benteak (*Lagerstrœmia lanceolata*) and Pillamarudu (*Terminalia paniculata*) is imported from Karwar and Baliapatam for ship-building. Benteak (*Lagerstroemia lanceolata*) is bought at Rs. 18 per candy, and Mathi (*Terminalia tomentosa*) and Pillamarudu (*Terminalia paniculata*) at Rs. 14 per candy.

There is also a great demand for Pali (*Dichopsis elliptica*), and a certain amount of demand for Poon (*Calophyllum tomentosum*). Other heavy red junglewood species are also bought and generally sold mixed with Pali (*Dichopsis elliptica*). All these are bought in scantling and plank form in Malabar. Sizes of the scantlings in demand are 3″×1½″, 3″×2″, 3″×3″, 4″×3″, 5″×3″, 6″×3″, 7″×3″, 8″×3″, 9″×3″, 5″×4″ and 6″×4″ in lengths of 10′ to 15′. Planks 12″×1″, 10″×1″, 12″×2″, 6″×1″, and 12″×1½″ in lengths of 10′ to 30′. The buying rate for scantlings and planks in Malabar is Rs. 1–10–0 to Rs. 1–13–0 per c.ft., and the selling rate here is Rs. 2–1–0 to Rs. 2–5–0 per c.ft.

About 2,000 tons of junglewood are imported here every year.

Bulsar-sajario or Karimarudu (*Terminalia tomentosa*) is also imported in large quantity and sold at the rate of Rs. 10 to Rs. 30 per candy of 1,225 c.ft., according to the size of the logs and demand.

(*c*) *Expenses per ton*—

Malabar expenses, Rs. 4.
Freight Rs. 9 to Rs. 12 (in scantlings).
Dock fees, insurance fees, etc., Rs. 3.

Roughly it costs 20 per cent per ton, over buying rates at Malabar.

(*d*) *Bamboo vanjees or split bamboo bundles.*—There are three qualities :—

No. 1, 50 full length pieces per vanjee of, say, 12′ to 14′ length, and 1½″ to 2″ width.
No. 2, same as No. 1, but the width may be under 1½″.
No. 3, same as No. 2, but may have 20 broken pieces.

The buying price of No. 1 quality 14′ length is Rs. 200 per vanjee, of 12′ length at Rs. 160 to Rs. 165, the second quality Rs. 150 to Rs. 165 for 14′ length and Rs. 130 to Rs. 135 for 12′ length, the third quality Rs. 120 to Rs. 125 for 14′ length and Rs. 80 to Rs. 90 for 12′ length. The expenditure to bring 100 vanjees from Malabar to Porebunder is Rs. 75 for first and second-class quality and Rs. 55 for the third-class quality. Annually about 10,000 vanjees are imported to Porebunder from Malabar.

According to Custom's office statistics, timber from various ports was imported as under during 1927–28:—

Name of the port.	Value of the timber in Rs.	Name of the port.	Value of the timber in Rs.
Sumtassaa	340	Karwar	272
Karachi	2,223	Tokra	85
Cochin	24,363	Umargan	5,822
Azihakkal	21,017	Honavar	6,542
Dehnu	10,763	Bombay	1,20,275
Rangoon	75,817	Belligerri	15,372
Rajpuri	623	Sadasinghat	18,381
Bhavnagar	1,571	Calicut	1,42,170
Billimora	819	Bulsar	41,560
Baliapatam	7,456		
Sanjan	3,522	Total ...	3,50,479
Majunga	150		
Tellicherry	2,702		

JAMNAGAR

80. As my tour programme was reduced to one month, I had to pay only a flying visit to Jamnagar by car from Porebunder and was able to gather some information through the kindness of a gentleman who had kept the important timber merchants ready at his bungalow.

(*a*) *Teak* (*Tectona grandis*).—Nothing is imported from Malabar. Sizes in demand are 3″×1½″, 3″×2″, 3″×3″, 4″×3″, 4″×4″, 5″×3″, 6″×3″, and length 10′ to 30′. Boards and planks 6″×1″, 8″×1″, 9″×1″, 10″×1″, 8″×2″ and 12″×1″, with lengths varying from 10′ to 30′. Rangoon teak alone is in demand.

(*b*) *Junglewood.*—Pali (*Dichopsis elliptica*) is in great demand. Poon (*Calophyllum tomentosum*) comes next. The heavy red junglewood is mixed with and passed off as Pali and Poon.

Buying and selling rate, same as Porebunder, i.e., Rs. 1–10–0 to Rs. 1–13–0 and Rs. 2–1–0 to Rs. 2–5–0 per c.ft. respectively. Junglewood is imported to an extent of 1,000 to 1,500 tons per year from Malabar. There is a certain amount of demand for Pillamarudu (*Terminalia paniculata*) and Karimarudu (*Terminalia tomentosa*). The merchants are prepared to buy at our depots scantlings of Pillamarudu at Rs. 1–12–0

(*b*) *Junglewood.*—Pali (*Dichopsis elliptica*) from Malabar is imported to an extent of 4,000 tons and heavy red junglewood about 2,000 tons per year. The sizes required are 3″×2″, 3″×1½″, 3″×3″, 4″×3″, 5″×3″, 4″×4″, 6″×3″, 6″×4″, 7″×3″, 8″×3″, 9″×3″, 10″×3″ and 5″×4″, in lengths of 12′ to 15′ and above except 3″×2″ which is required in 10′ and above.

Plank sizes are 6″×1″ to 12″×1″, length 12′ and above.

Scantlings are said to be bought in Malabar at Rs. 1-7-0 to Rs. 1-9-0 per c.ft. and sold locally at Rs. 2-1-0 and Rs. 2-2-0 per c.ft. Planks are bought at Rs. 1-11-0 to Rs. 1-13-0 per c.ft. and sold at Rs. 2-2-0 to Rs. 2-5-0 per c.ft. There is no demand for *Terminalia paniculata*, Benteak (*Lagerstroemia lanceolata*) and Honne (*Pterocarpus marsupium*). *Terminalia tomentosa* is bought in beam sizes from Karwar or Bulsar. The above rates were given to me by an unreliable merchant and I think the rates are fairly inaccurate.

(*c*) *Bamboo vanjees.*—Buying and selling rates for different qualities are the same as at Porebunder. About 15,000 vanjees are imported annually. Owing to shortage of time, I had only half a day to spare to make an enquiry.

BHAVNAGAR

82. Bhavnagar imports a good deal of timber from the ports of Konkan, Guzerat, Malabar and Karwar.

(*a*) Teak is imported from Burma in particular and in small quantities in scantling forms from Malabar and in logs from Bulsar. In Malabar they buy sized scantlings of 3″×3″, 4″×3″, 5″×4″, 6″×4″, 3″×2″ and 3″×1½″ in lengths of 8′ to 12′. The buying rate is Rs. 2 to Rs. 2-4-0 per c.ft. The cost of bringing it to Bhavnagar is Rs. 20 per ton. It is sold at a profit of 1 anna to 2 annas per c.ft. There is very little demand for superior quality of teak. The quality seen by me was of inferior quality, most probably bought cheaply from Mappilla merchants. About 200 to 300 tons of teak is said to be imported every year.

Bulsar teak is bought in round 6′ to 30′ in length and 4″ to 12″ in diameter at a rate of Rs. 10 to Rs. 20 per candy. The cost of transport inclusive of all other charges comes to Rs. 4 per candy in log form. It is sold at a profit of Re. 1 to Rs. 3 per ton. Good deal of these logs are cut up into scantlings according to order at the saw mills of which there are nearly six at Bhavnagar.

The various sizes in which scantlings are kept and the rates at which they are sold are as under:—

Sizes.	Rate per c.ft. RS.	A.	P.	Sizes.	Rate per c.ft. RS.	A.	P.
5′ × 4″ × 3″	2	0	0	8′ to 12′ × 4″ × 3″ ...	3	0	0
6′ × 4″ × 3″	2	4	0	12′ to 18′ × 4″ × 3″ ...	3	4	0
7′ × 4″ × 3″	2	8	0	6′ to 12′ × 8″ × 5″ ...	3	8	0
8′ × 4″ × 3″	2	12	0	6′ to 12′ × 8″ × 4½″ ...	3	12	0
3′ to 4′ × 4″ × 3″ ...	1	6	0				

The above sizes are mostly in demand, 5″×3″, 3″×3″, 3″×2″, 3″×1½″, 6″×4″ and 5″×4″ are also in demand. The saw mills charge Rs. 3-8-0 per candy to private individuals for sawing into scantlings and Rs. 5 for planks.

(*b*) *Junglewood.*—Pali (*Dichopsis elliptica*) is most in demand, in sizes of 3″×3″, 4″×3″, 5″×3″, 6″×3″, 3″×4″, 3″×2″, 4″×1½″, 4″×1″, and 3″×1″, and in lengths of 8′ and above, and is bought in Malabar at Rs. 1-8-0 to Rs. 1-12-0 per c.ft. The cost of transport inclusive of all charges from Malabar to Bhavnagar comes to Rs. 20 per ton. It is sold at Rs. 2-2-0 per c.ft. There is a great demand for Mango (*Mangifera*

indica) planks of sizes 10″×1″, 12″×1″ and length of 6′ to 20′. Nearly 2 lakhs of planks or 3,000 tons are imported every year from Malabar. They are bought in Malabar at Rs. 75 to Rs. 90 per 100 planks, 19′ to 20′ length and 10″×1″ in size. In the 100 planks, 75 pieces may be of full length and the remaining 25 pieces may be of short lengths. Expenditure such as freight, carting, etc., comes to 50 per cent of the buying price. These planks are sold at a profit of Rs. 5 on 100 planks.

(*c*) *Bamboo vanjees.*—There is demand only for second-class and third-class quality (vide details under Porebunder). The second-class quality is bought at Rs. 165 to Rs. 170 for 100 vanjees, cost of transport, etc., Rs. 70 and sold at a profit of 10 per cent.

The quality No. 3 of 14′ length is bought at Rs. 70 to 75 per 100 vanjees and of 12′ length at Rs. 50. Cost of transport, etc., is Rs. 50. It is sold at a profit of 10 per cent. The business at present was said to be dull. Timber merchants are afraid to do business with Malabar as the country craftsmen are said to sell away part consignments of timber on the way and give an excuse that, owing to some storm on the sea, some timber had to be thrown away in order to make the craft light. Besides there is no control over the craftsmen, because the Bombay Government have stopped the patrolling of guards' steam launches. The timber merchants are agitating with the State to float a limited Insurance Company in which the State would buy half the shares and the other half will be subscribed by the public. Goods of the loaded country crafts will then be insured in this company and if the craftsmen play any dirty trick on the way, it is expected that the State would take action against such men.

According to Custom's figures timber imported from various ports is as under:—

Year.	Bombay.		Guzerat.		Konkan.		Malabar.		Kanara.	
	Tons.	Value.	Tons.	Value.	Tons.	Value.	Tons.	Value.	Tons.	Value.
		RS.		RS.		RS.		RS.		RS.
1923 ...	1,414	1,95,487	3,544	2,56,790	10,372	8,45,382	6,040	4,87,681	.	...
1924 ..	1,365	1,82,145	3,882	2,33,003	9,162	6,72.776	5,989	3.79.205	...	
1925	2,215	3,10,304	3,116	2,00,665	11,973	10.18,862	5,650	4,56,111	60	1,840
1926 ...	Figures are not available.									
1927 ...	1,142	1,83,185	2,455	98,282	10,062	6,73,994	3,245	2,58,547	400	60,487

CUTCH

83. I had no occasion to visit Cutch as I had no time. The important ports are Mandvi, Mudra and Tuna. Mandvi is still an important centre for boat building and on that account Benteak (*Lagerstrœmia lanceolata*) is imported to an extent of 2,000 candies a year. *Terminalia paniculata* (Pillamarudu), *Terminalia tomentosa* (Karimarudu) are also imported for boat building. I was informed at Jamnagar that the annual requirement of Cutch is almost double to that of Jamnagar.

AHMEDABAD

84. I just broke journey for a day on my way to Bombay. As the heat was unbearable I was able to approach only one timber merchant in the cool hours of the evening. This merchant gave me to understand that from Jubbulpore and Surat-dangs, sawn scantlings are imported in large quantity every year. The scantlings in demand are 6′ to 7′ 9″ of 4″×3″, 4″×4″, 6″×4″, 6″×5″, 6″×6″, 7″×6″, 8″×6″, 3″×3″, and 5″×3″, 8′ and above of 4″×3″, 5″×3″, 6″×3″, 6″×4″, 6″×5″, 7″×5″, 8″×6″, 7″×6″, 4″×4″, 5″×4″, 3″×3″, 7″×2″, 8″×2″, and 9″×2″.

Planks are 8″ to 12″ width and 1″ in thickness and of length 6′ and above.

Jubbulpore teak of 6′ to 7′ 9″ in length is bought at Rs. 2–2–0 per c.ft. f.o.r. The cost of transport by rail, cartage, etc., to depot comes to As. 8 per c.ft.

Teak of Surat-dangs of 6′ to 7′ 9″ is bought at Rs. 2 per c.ft. f.o.r.

Expenditure, railway freight, etc., As. 4 per c.ft.

85. Eight feet and above Jubbulpore quality is bought at Rs. 2–8–0 f.o.r., and Surat-dangs at Rs. 2–4–0 f.o.r. Planks of 7″×2″, 8″×2″, 9″×2″ are bought at Rs. 3 f.o.r. Short lengths 3′ to 5′ are bought from Bhavnagar Saw Mills at a rate of Rs. 1–7–0 per c.ft. f.o.r. Expenses up to Ahmedabad work up to As. 6 per c.ft. At present there is a great demand for cheap-sawn material, because there are about six textile mills under construction. This timber merchant had placed some orders with me which I have passed on to the Forest Utilization Officer. The nearest port for Ahmedabad is 'Cambay'. The freight and other expenses from Malabar to this port would be the same as to Bhavnagar plus about As. 6 per c.ft. to Ahmedabad.

86. There is a great field to introduce Malabar teak and junglewood in Kathiawar ports provided we can sell our timber at a little lower rate and they may be of a slightly inferior quality.

87. Mr. H. H. Wadia, who is an influential businessman in Kathiawar, is willing to take up the agency on suitable terms. He has visited the Olavakkot and Beypore depots as well as the Kathiawar timber markets and is convinced that the stuff we sell is decidedly superior to what he has seen at Kathiawar. He is a gentleman of good business capacity and knows the art of pushing the new materials in the market. It will not be a bad idea to send for him and give him an interview. He is expected to arrive in Madras about the middle of August. His address is :—

"Baria Buildings,
Opposite to Crawford Market,
Bombay."

In the meantime he has asked me to supply him sample of six pieces in each species which we want to introduce in Kathiawar market.

88. It will thus be seen that Burma teak is in demand everywhere. Malabar teak bought cheap from Mappillas is very little in demand in Karachi and Kathiawar. Karwar teak (Bombay Presidency) is in demand in Bombay and Kathiawar. Surat-dangs teak and Jubbulpore teak is greatly in demand in Kathiawar and Ahmedabad owing to its cheapness.

89. Among junglewood species from Malabar, Vellapine (*Vateria indica*) is in great demand in Bombay. Pali (*Dichopsis elliptica*) is in great demand in Kathiawar and Kalpine (*Dipterocarpus indicus*) is in great demand in Karachi. Other hard red wood species are bought cheap and sold mixed with Pali and Kalpine. Poon (*Calophyllum tomentosum*) is in demand in Bombay, Karachi and Kathiawar. *Terminalia tomentosa*, *Terminalia paniculata* and Benteak (*Lagerstrœmia lanceolata*) are in demand in fair quantity in Kathiawar and Cutch, last two species specially for boat-building. I had absolutely no time to enquire about other industrial concerns where timber may be in demand for various purposes, but the persons whom I have recommended in my report as prospective agents are prepared to make enquiries in such matters and do their utmost. If they are sent samples of tool handles of whatever species we think suitable or even softwood for match making, they would try their very best to find out markets. Aspen (*Populus tremula*) from Japan and Sweden is imported in large quantity for match-making at the rate of Rs. 80 and Rs. 110 per ton respectively, delivery, c.i.f., and people at Karachi, Kathiawar and Bombay are anxious to replace Aspen by any cheap suitable softwood species. I saw one factory at Bombay

and another at Veraval. Messrs. Nusserwanjee & Co., Karachi, also intend to start a factory provided they could get a steady supply of Indian suitable timber. I learnt that a Swedish Trust want to open match factories all over India and to monopolize all Aspen for their own factory.

CONCLUSION

90. From the report it is clear that timber in log and scantling forms is exported in large quantity at a very cheap rate from Malabar and Kanara Forests. Unfortunately, the Collector of Customs, Calicut, or the Port Officer, Calicut, have not maintained any correct statistics for all coastwise shipments and consequently it is very difficult to get an accurate idea as to what quantity in log and scantling form is exported annually from the various ports of Malabar in ships and country craft. It is suggested that for statistical purposes, the Customs Collector, Madras, be addressed to take some steps in the matter.

91. However, from what little information I have been able to secure from various Customs officers it is clear that timber exported from Malabar from private sources is enormous when compared to what we put out in the market. Our output will hardly come to 400 tons or 2 lakhs of c.ft. per annum. Private individuals for some reason or other are therefore able to put out in the market cheap materials to compete against one another and are satisfied with what little profit they get in these hard times when there is general trade depression everywhere. I do not think therefore that we stand the least chance of introducing our timber in Kathiawar, Bombay and Guzerat to meet the demands of the public at our present rates. I admit without the least hesitation that the quality of our sawn material is undoubtedly superior to what is exported from Malabar, but as I have said in my report, people do not care for the quality so long as they could get their requirements cheaply. At Ahmedabad I saw a palatial building newly constructed in front of the house I was stopping and on enquiry I learnt that all teak that was used was from Jubbulpore which was most inferior in quality and the cheapest. The argument which I have been listening to ever since I joined the department that private forests will not last long and then that there will be great demand for our timber does not seem to me sound at any rate so far as Malabar is concerned. As I have mentioned above our output is only 400 tons a year and probably about 500 tons at Olavakkot and both put together, compare very unfavourably with the output of private individuals. This is proved from what figures I have obtained from various port officers mentioned in my report.

92. Therefore, if it is our intention to establish our market in Malabar and popularize our timber in Bombay, Kathiawar and Karachi—

(*a*) We must try and produce a slightly inferior quality stuff (i.e., little inferior to what we have now) which people in general have a liking, and

(*b*) To reduce our rates, thus giving the public cheap quality timber.

(*a*) I do not think there will be any great difficulty in reducing the quality, because under our present grading rules, scantlings with some flaw or other are reduced in length or in width or thickness in order to get either flawless pieces or one piece of good quality and the other of inferior quality and thereby create more wastage. This may be dispensed with and scantlings with some kind of flaw or other, if not entirely bad, may be left as they are and sold at cheaper rate if possible. At Parappa I noticed one teak reeper unnecessarily being cut into two pieces to produce one first-class short length and another second-class long length, whereas the price of second-class long lengths is more than first-class short lengths. Similar mistakes may be occurring in respect of

other scantlings. As regards measurements in logs, we must make some concession for drag holes, hollows and flaws as is done in Malabar by private timber merchants and in the Kanara districts of Bombay Presidency. In scantlings any odd length under 9″ over a foot should be ignored, e.g., 2′ 8″ should be taken as 2′ only. In sizes, i.e., in width and thickness, we must give the exact dimensions required by the public as is done in the case of all Rangoon scantlings.

(*b*) *To reduce our rates.*—I cannot make any suggestions, but I may mention that in Bombay Presidency the cost of production exclusive of interest on capital cost and depreciation value is much under Re. 1 per c.ft. There are six saw mills, of which one or two are since scrapped. They had a Forest Utilization Branch once, but they have abolished it as they found it was quite unnecessary. All the saw mills there, I was given to understand, are directly in charge of the District Forest Officers and the Conservators of the respective circles. The Conservators and the District Forest Officers attend in addition to their usual routine work, to exploitation, to saw mills work and to sales of sawn material. To attend to the mechanical side of the saw mills, they have mechanics. If it is not out of place it is suggested that the Chief Forest Engineer or the Chief Conservator may address the Chief Conservator of Forests, Bombay, and get all details and then a decision may be arrived at as to the way by which the cost of production in our mills can be reduced.

I am of opinion that if by reducing our cost of production we can reduce our rates, there is possibility of placing our timber profitably in the markets of Karachi, Kathiawar and Bombay.

Lastly, a word of caution is necessary for starting new industrial concerns. At the present moment there is a depression in trade all round, foreign markets dump in cheap materials in large quantities, several industrial concerns have gone into liquidation, some are on the verge of going into liquidation, some more will go in future, some have begged of the Government to grant them subsidies and some have closed up marking time for better days. Money market is tight all round and there is retrenchment everywhere. Under such circumstances, it is not worthwhile to invest a single pie in opening up new concerns, unless the promoters of such concerns have worked up to the last pie the cost of production of their material which could be sold cheaper than the foreign materials. Then alone such new concerns will be able to work at a slight margin of profit.

PART II

REPORT ON THE INTERIOR MARKETS OF THE MADRAS PRESIDENCY

CUDDAPAH

93. Timber most in demand here are small round poles of Mathi (*Terminalia tomentosa*), Yellama (*Anogeissus latifolia*), Chandanam (*Pterocarpus santalinus*) and Billu (*Chloroxylon swietenia*). These species are roughly squared and used as rafters for flat roofs besides being used as poles. These timbers are sold in bazaar by coupe contractors who take the lease of coupes in the district. Panels for doors and windows are generally made from Neem (*Azadirachta indica*) and Mango (*Mangifera indica*) trees which are available on patta lands and on assessed and unassessed wastes. Palmyra rafters are largely used. Even the rafters used in some of the private bungalows and offices are of palmyra.

94. Some Komatties and Chetties are now beginning to use Teak (*Tectona grandis*) in house construction and they get their requirements from Madras which is so near to Cuddapah. Minor requirements in teak are generally had from the local timber merchants who invariably are also the carpenters. There are seven such merchants in all and they purchase at Madras Burma teak scantlings and logs up to the value of about Rs. 3,000 annually ; logs at the rate of Rs. 3 to Rs. 4 per c.ft. f.o.r., and scantlings at Rs. 4–8–0 to Rs. 4–12–0 per c.ft. Sizes in common demand are $2'' \times 4''$, $2'' \times 3''$, $3'' \times 4''$, $4'' \times 1\frac{1}{2}''$, and $4'' \times 2\frac{1}{2}''$ in 6′ to 7′ lengths. Reepers of $2'' \times \frac{1}{2}''$ are bought at Rs. 32 per 1,000 r. ft. Expenditure all told comes to As. 4 per c.ft.

95. *Kolmarams.*—In this district kolmarams are not used, but instead two long poles of Red Sanders (*Pterocarpus santalinus*) or Mathi (*Terminalia tomentosa*) are used. For chattams, hubs, yokes, local timber only is used. Teak (*Tectona grandis*) and Yegi (*Pterocarpus marsupium*) are used for spokes and felloes which are either got made from small trees available in the local forests or bought at Diguvamitta, Markapur and Nandyal in Kurnool District.

SUGGESTION

96. Cuddapah is a poor town on the whole and the people are quite satisfied with what they get from the local forests. Cuddapah is the headquarters of two Range officers and it would not be a bad idea to send them a consignment of one waggon load of Teak (*Tectona grandis*) and junglewood after once again verifying from them the common sizes in demand. The Range officers will widely advertise the sale and when the public see the material it is likely that the demand for our material may rise in future. However, there is no harm in giving the above suggestion a trial.

BELLARY

97. It is a great centre for cart-making. About 3,000 carts are manufactured every year and sold in villages at rates varying from Rs. 60 to Rs. 120 according to the kind of the cart and the quality of timber used in it. Timbers in demand for cart-making are Teak (*Tectona grandis*), Pali (*Dichopsis elliptica*), Billu (*Chloroxylon swietenia*), Heddi (*Adina cordifolia*) and Babul (*Acacia arabica*).

(*a*) *Teak.*—This is bought in logs $2\frac{1}{2}'$ and above in length and of most inferior quality from Alnavar, Thavarkotta, Dandeli and Tiruv. in Dharwar and North Kanara Forest Divisions. It is bought at As. 13 per c.ft. from private timber merchants who are also coupe contractors at Alnavar and Thavar kotta. The expenditure all told to Bellary works to As. 4 per c.ft. Logs are then sawn up locally at the rate of Rs. 4 per 100 s.ft. or As. 8 per c.ft. into felloes of $2\frac{1}{2}' \times 11'' \times 2\frac{1}{2}''$ and spokes of $2\frac{1}{2}' \times 3\frac{1}{2}'' \times 1\frac{3}{4}''$. Generally 12·5 c.ft. of log yields $1\frac{1}{2}$ sets = 8·5 c.ft. The wastage works out to 32 per cent. At Alnavar a set is sold at Rs. 18 and it costs Rs. 1–12–0 per set to rail it and cart it to Bellary depot. At Chinnagiri (Hallikeri station), Mysore State, a set is sold at Rs. 15 to Rs. 18 and the expenditure all told to Bellary is Rs. 2–5–0 per set.

(*b*) *Pali* (*Dichopsis elliptica*).—It is used only for kolmarams. $15' \times 6'' \times 4''$ sizes are bought at Olavakkot and Palghat at Rs. 2–12–0 to Rs. 3–2–0 each. Expenditure all told to Bellary is Rs. 2 each.

(*c*) *Chattams, Yokes and Cross-pieces.*—These are made from Heddi (*Adina cordifolia*) which is bought in log from Alnavar at Rs. 6 to Rs. 8 per candy or As. 8 to As. 10–3 per c.ft. Logs are sawn into chattams of $9\frac{1}{2}' \times 6'' \times 3\frac{1}{4}''$. 12·5 c.ft. can yield 6 chattams. From off-cuts, cross-pieces of $3' \times 3'' \times 2\frac{1}{2}''$ are made. Four such pieces are required to make a frame with two chattams. Yokes are $6\frac{1}{4}' \times 5'' \times 3\frac{1}{2}''$ and 12 such pieces can be sawn from a candy of 12·5 c.ft. The cost per chattam=1·3 c.ft. therefore works out to Rs. 1–1–0 each and that for yoke to As. 9 each. This includes cost of transport from Alnavar to Bellary and sawing charges.

(*d*) *Wheel boxes or hubs.*—These are made from Billu (*Chloroxylon swietenia*) minimum in diameter to be one foot. Logs are bought at Chanda Vardabad and Pipria in Central Provinces and Nizam's State. It is bought at As. 8 to As. 12 per c.ft., and the expenditure all told comes to As. 13 to Re. 1 per c.ft.

(*e*) *Axle-boxes.*—These are made from Babul (*Acacia arabica*), which is available locally in large quantity in tank beds.

(*f*) *Building material.*—Teak (*Tectona grandis*) logs and scantlings are bought at Dandelli depot at Rs. 2–8–0 per c.ft. for a log of good quality and Rs. 2 to Rs. 4 per c.ft. for scantlings. The sizes in demand are 6′ to $7' \times 4'' \times 3''$ and $4'' \times 1''$ and $12' \times 4'' \times 1''$. Logs are also sawn up locally into scantlings at Rs. 3–8–0 per 100 sq.ft. and sold to the public at Rs. 4 per c.ft. Sawn planks up to 12″ width are sold at Rs. 5 per c.ft. and above 12″ at Rs. 5–8–0 per c.ft. In order to verify Dandelli auction sale rates I checked an invoice, the entries in which were as under :—

$12' \times 4'' \times 1''$=156 c.ft. at Rs. 340 or Rs. 2–4–0 per c.ft.
$6' \times 8'' \times 4\frac{1}{2}''$=200 c.ft. at Rs. 400 or Rs. 2 per c.ft.
$7' \times 4'' \times 3''$=171 c.ft. at Rs. 580 or Rs. 3–6–0 per c.ft.

On inspecting the scantlings they were found in quality to be equal to ours. I cannot make out why there should be a difference of Rs. 1–6–0 per c.ft. in the last two sizes.

Mathi (*Terminalia tomentosa*).—This is used in large quantity for house building purposes. Logs are bought at Dandelli at As. 8 to As. 13 per c.ft. It is sawn up locally at Rs. 4 per 100 sq.ft. The scantling most in demand is 5′ to $7' \times 4'' \times 3''$. Scantlings are sold locally at Rs. 2 to Rs. 2–12–0 per c.ft. On an average 1,000 tons of Mathi is used annually in Bellary.

Benteak (*Lagerstroemia lanceolata*).—This is bought only in limited quantity at As. 8 to As. 11 per c.ft. at Dandelli and sawn up and sold locally at Rs. 2 to Rs. 2–12–0 per c.ft.

There is no demand for other species. In fact we cannot do any business with Bellary because it can get its supply elsewhere cheaper as reported above.

RAJAHMUNDRY

98. Rajahmundry is the largest timber centre to meet the demands of the districts of two Gōdāvaris, Kistna, Guntūr and even Kurnool. All the depots are on the left bank of the river Gōdāvari, located in a place called Kottalingala.

(a) Source of supply.—Logs are floated down the Gōdāvari River from the following divisions and States :—

Upper Gōdāvari Division.	Polavaram Range.
Polavaram State.	Nizam's State.
Pithapur State.	Jeypore State.
Thandungi State.	Central Provinces including Basta State.
Thoyyam State.	Angalur Agraharam.
Udathapalli State.	Rampa.
Gangoli State.	

From Checking Officers' accounts it has been possible to ascertain the number of poles and logs floated down annually to Rajahmundry, but no proper account is forthcoming as to the quantity in c.ft. for each species. Logs from Jeypore and Basta States are of the best quality.

(b) Method of marketing.—There are local timber merchants or coupe contractors in each of the abovementioned States and divisions. They buy timber in auction sales and also coupes. There is no demand in these States locally, so all the produce is floated down to Rajahmundry market for sale. Majority of the timber merchants at Rajahmundry are no better than brokers. These merchants or brokers advance money to all timber merchants or coupe contractors in States at 12 to 15 per cent interest and in return get them to send all timber and bamboos for sale at Rajahmundry. These brokers have a site of their own and they charge ground-rent for all timber and bamboo stocked thereon and also a commission at the rate of 2 per cent for everything sold. In fact these Rajahmundry merchants have become quite rich at the expense of the timber merchants and coupe contractors in the various States and there will be nothing to be surprised at, if the suppliers are swindled outright. I was told that both the parties are involved in litigation over the settlement of accounts and one local Magistrate informed me that the timber merchants at Rajahmundry must be making nearly 30 per cent profit over the material sold by them and showing less profit to the merchants in States.

Business is done only in logs and poles. Any man wanting scantlings have to purchase logs at these sale depots and hand over the logs to the sawyers who are available on the spot itself. The usual sawing charges are Rs. 25 per hundred threads, each thread equals 12 feet and Rs. 30 for planks irrespective of the width of the sawing surface. For Mathi (*Terminalia tomentosa*) and Rosewood (*Dalbergia latifolia*) Rs. 30 and Rs. 35 are sawing charges for scantlings and planks respectively.

The species most in demand and the rate at which they are sold are given under, but they must be taken with a little caution as I do not think they are quite reliable. It was not possible to get rates per c.ft.

Teak (*Tectona grandis*)—

18′ and up, girth 3½′ to 6′ rough squared, Rs. 2–8–0 per c.ft.

Do. poor quality and unsound, Rs. 18 to Rs. 30 per log.

Short logs, rough squared above 12′, Rs. 25 per log.

Do. unsound and fair quality, mixed, Rs. 15 per log.

Round logs—

20′ and above, 2½′ to 3½′ girth, good quality, Rs. 12 to Rs. 20 per log.

Do. poor quality, Rs. 9 to Rs. 15 per log.

Under 20′, 2½′ to 3½′ girth, good quality, Rs. 12 to Rs. 18 per log.

Do. poor quality, Rs. 6 to Rs. 12 per log.

Statement showing the number of logs, poles, etc., exported from various States in several species—1927–28.

Name of species.	Upper Gōdāvari.	Polavaram State.	Pithapur State.	Thandungi State.	Thoyyam State.	Udathapalli State.	Gangoli State.	Polavaram Range (Lower Gōdāvari).	Nizam's Territory.	Jeypore State.	Central Provinces.	Angalur Agraharam.	Rampa.	Total.
Yepi (*Hardwickia binata*)	141	...	10	...	...	...	...	...	...	...	..	...	...	151
Shorea sleepers	...	..	...	...	...	...	...	...	...	...	707	...	...	707
Gummidi (*Gyrocarpus*)		...	...	...	...	...	...	...	...	...	...	...	1	1
Teak	19,763	...	...	...	...	1	...	...	56,944	3,746	22,255	...	.	102,709
Mathi (*Terminalia tomentosa*)	7,819	5	862	...	26	669	...	..	30,828	610	2,839	...	...	43,658
Pala (*Mimusops*)	...	...	...	...	...	...	...	...	43		..	...	...	43
Yegisi (*Pterocarpus marsupium*)	1,456	...	206	...	...	286	...	...	1,007	1,033	2,627	...	...	6,615
Jitegisi (*Dalbergia latifolia*)	90	75	386	...	...	1,261	...	...	570	1	289	...	20	2,712
Tangedu (*Xylia*)	301	...	...	...	1,408	4,587	...	...	15,984	...	1	...	...	22,281
Chinangi (*Anogeissus latifolia*)	2,163	52	23,700	165	450	6,685	...	...	32,585	868	3,065	...	...	69,733
Chanangi (*Lagertreemia lanceolata*) ...	270	...	..	7	...	...	...	...		...	...	...	...	277
Bandaru (*Adina cordifolia*)	643	...	33	...	...	53	...	..	1,022	149	30	...	...	1,930
Somi (*Soymida febrifuga*)	106	...	...	...	...	1,151	...	...	55	...	...	...	...	1,313
Sandra (*Acacia sundra*)	73	1,424	50	...	...	564	...	...	4,005	...	1,145	...	...	7,261
Ippu (*Bassia longifolia*)	19	..	...	...	...	...	...	...	533	...	...	..	...	552
Kodisa (*Cleistanthus collinus*)	39	1,265	17,880	12,049	2,400	3,849	...	...	4,296	...	...	...	34,521	76,299
Tumaki (*Diospyros melanoxylon*)	14	...	...	...	..	...	...	...	...	...	1,180	...	...	1,194
Billudu (*Chloroxylon swietenia*)	11	...	...	...	...	...	...	...	1,852	...	...	...	...	1,863
Karaka (*Terminalia belerica*)	8	...	...	...	...	...	...	...	13	...	..	...	...	21
Usarikaya (*Phyllanthus emblica*)	17	...	...	...	...	...	...	...	...	...	...	...	...	17
Tellathuma (*Acacia lencophlœa*)	3	...	...	...	...	...	...	...	...	...	...	...	...	3
Yerramaddi (*Terminalia Arjuna*)	3	...	...	...	...	...	...	...	62	...	...	...	...	65
Miscellaneous species	254	897	117	3	819	2,041	...	...	270	...	2,085	...	...	6,509
Ani (*Bauhinnia species*)	...	62	...	...	...	64	...	...	102	...		...	...	228
Chinduga (*Albizzia odoratissima*)	...	...	75	...	...	227	...	...	...	...	...	...	...	309
Thada (*Grewia tilliæfolia*)	...	...	604	...	6	698	...	...	677	...	...	...	...	2,085
Tummra (*Acacia arabica*)	...	...	...	...	1	...	...	...	...	...	...	...	...	1
Botugu (*Stephegyne*)	...	...	...	...	1	1	...	...	...	...	...	...	...	2
Bamboos	1,205,094	56,388	1,307,424	299,972	81,686	799,565	76,213	552,743	1,640,450	71,000	2,637	48,000	1,479,976	7,632,448

Anogeissus latifolia, *Xylia dolabriformis* and *Lagerstroemia lanceolata* are bought as under :—

Vasalu (poles)	Bought at Rs. 6 per 100 ...	Expenditure to Bezwada Rs. 6 and Re. 0–3–3 to Re. 0–5–0 per c. ft.
Dulalus (beams)	Rajahmundry and also Nizam's State Rs. 3–8–0 to Rs. 4 per log.	
Bazu 18′ and above and average girth 18″.	Rs. 1–6–0 to Rs. 1–12–0 each.	
Yepi posts 12′ and 16″ to 26″ girth, bought in Nizam's State.	Rs. 1–8–0 to Rs 3–4–0 per c.ft.	As. 5.
Sandra and do.	Re. 1 to Rs. 2–8–0 per c.ft. ...	As. 5.
Do. 6′ and 9″ girth ...	Rs. 60 to Rs 80 per 100 ...	Rs. 10.
Billu, Bazu	Re 1 to Rs. 2 per log.	
Billu, plough shafts, 12′, 6″ to 8″ girth.	Rs. 70 to Rs. 75 per 100 ...	Rs. 10.

Andaman Gurjan (*Dipterocarpus turbinatus*) is also bought in sizes of 10′ and up at Madras at Rs. 100 f.o.r. per ton.

At Bezwada and Guntūr I met two important railway contractors and they informed me that all their timber requirement was supplied by the railway who bought most of it from the Bombay Government at Dandelli and it is a fact because most of the output of the Dandelli Saw Mill is sold to the Madras and Southern Mahratta Railway only. In this connexion I would very strongly urge the Utilization Division to get immediately in touch with both the South Indian Railway and the Madras and Southern Mahratta Railway authorities and after discussion, to build up a stock for the railways. It is fairly well known that the sizes are all type-designs and as such there should not be a difficulty in building up a stock for them. If this was done I am sure we will be able to get rid of all our stuff at a very good price. There is this additional advantage :—

(1) We can curtail much of our selling organization ;

(2) We need not depend upon the local markets to absorb all our stuff.

This aspect of the question needs immediate attention. I know for certain that at Dandelli the Bombay Forest Department has captured the Madras and Southern Mahratta Railway and practically all their stuff is consumed by this Railway.

GUNTŪR

100. Guntūr obtains most of its requirements from the Nizam's territory.

(*a*) Teak sizes in demand are 3′×3″×3″, 6′ and up, 3″×2″, 4″×2½″, 4″×3″, 7′×5″×3″. These sizes are bought at Singareni at Rs. 2–2–0 to 2–6–0 per c.ft. 3′×3″×3″ is bought at Rs. 20 to Rs. 26 per 100 or Re. 1 to Rs. 1–6–0 per c.ft. The expenditure all told comes to As. 4 to As. 6 per c.ft. to bring the stuff to Guntūr.

Buying and selling rates for logs and poles of Teak (*Tectona grandis*), Mathi (*Terminalia tomentosa*) and Vengai (*Pterocarpus marsupium*) are given in the statement (Appendix IV).

The buying rates for other species are the same as the ones quoted on the previous page under Bezwada.

(*b*) *White Cedar* (*Dysoxylum malabaricum*).—Sizes 6′×1½″×¾″ and 6′×1½″ ×1½″ are much in demand for camp cots (X pattern and gold medal). Annually about 350 c.ft. and 50 c.ft. are consumed at Narasaraopet and Guntūr, respectively. It is bought at Kallai f.o.r., Rs. 4 to Rs. 4–8–0 per c. ft. The expenditure all told comes to Re. 1 per c.ft. The little Dysoxylum malabaricum we have at Olavakkot may be diverted here. The rate offered is good.

KURNOOL.

101. Kurnool obtains most of its requirements from Dandelli, and Central Provinces also supplies a little.

(*a*) Teak sizes in demand are $6' \times 4'' \times 3''$, $7' \times 5'' \times 3''$, $8' \times 3'' \times 2''$, $9' \times 6'' \times 4''$, $7' \times 12'' \times 1''$ $6' \times 8'' \times 1''$, $7' \times 10'' \times 1''$, $4\frac{1}{2}' \times 4'' \times 3''$, $5' \times 3'' \times 2''$, and reepers $6' \times 2'' \times 1''$ and $6' \times 2'' \times 2\frac{1}{2}''$. The buying and selling rates are given in Appendix IV. The annual demand is about 25,000 c.ft. of Dandelli and Kurnool teak and 2,000 c ft. of Burma teak.

(*b*) Mathi (*Terminalia tomentosa*) squares are bought at Chanda (C.P.) Forests. 6″ to 12″ squares of 18′ and up in length are got at As. 10 to As. 12 per c.ft. Expenditure all told comes to Re. 1 per c.ft. Good Mathi logs even bigger than what we see in Wynaad are also bought at Dandelli at Re. 1 per c.ft. f.o.r., and the expenditure comes to As. 10 per c.ft. It is sawn up locally at the rate of As. 8 per c.ft. into sizes $6' \times 3'' \times 2\frac{1}{2}''$, $7' \times 3\frac{1}{2}'' \times 2\frac{1}{2}''$, $8' \times 4'' \times 3''$, $10' \times 5'' \times 3''$ and $5' \times 3'' \times 2''$. The annual demand is 35,000 c.ft.

(*c*) *Yegisi* (*Pterocarpus marsupium*), rough squared logs of $8'' \times 8''$ and $12'' \times 12''$ are obtained from Chanda at Rs. 1–8–0 per c.ft. The expenditure comes to Re. 1 per c.ft. At Dandelli it is bought at Rs. 1–8–0 per c.ft. and the expenditure comes to As. 10 per c.ft. Most of the Vengai (*Pterocarpus marsupium*) is sawn up into spokes and felloes which are sold from Rs. 22 to Rs. 26 per set according to quality.

Curved felloes of $2\frac{1}{2}' \times 8'' \times 2\frac{1}{2}''$ and spokes $2\frac{1}{2}' \times 2\frac{1}{2}'' \times 3\frac{1}{2}''$ roughly shaped are bought from Coimbatore District (presumably Pollachi) at Rs. 20 per set. The expenditure comes to Rs. 5 to Rs. 6 per set. These are sold at Rs. 35 per set. Spokes and felloes are made from the Vengai (*Pterocarpus marsupium*) trees of the Kurnool Forests also and I was told that sometimes they are even sold at Rs. 31 per set. Mr. George Venugopal, the District Forest Officer, Kurnool West, whom I could not see, had left word with the Ranger to tell me that on account of the great demand for Vengai (*Pterocarpus marsupium*) spokes and felloes, good many young Vengai trees are illicitly felled and taken away by timber smugglers and the trees get no chance to grow. Inasmuch as the rates obtained per set are very attractive it is hoped that in Wynaad and elsewhere more attention would be paid in the conversion of deformed trees, top ends, stout branches from trees, etc., felled in coupes, into spokes and felloes.

(*d*) *Adina cordifolia*.—This is purchased in squares of 6″ and 12″ (6′ and above in length) from Chanda at Re. 1 per c.ft. and from Dandelli at As. 12 per c.ft. It is generally sawn up into planks for doors and windows which are sold locally at Rs. 3–2–0 to Rs. 3–8–0 per c.ft. Sawing charge comes to As. 8 per c.ft.

Timber merchants here formerly used to buy Mathi (*Terminalia tomentosa*), Vengai (*Pterocarpus marsupium* and *Adina cordifolia*) from Mysore and Nanjangud, but since they are able to buy the same of better quality and cheaper at Dandelli and Chanda they have stopped buying at these places. Besides the railway freight is also less from Dandelli and Chanda.

(*e*) *Yepi* (*Hardwickia binata*).—This is in demand for house posts. 10′ to 12′ long and $2\frac{1}{2}'$ to 3′ girth posts are obtained from the Nizam's State at Rs. 2 per c.ft. Expenditure comes to Rs. 1–4–0 per c.ft. The posts are round and dressed right up to the heartwood.

(*f*) *Billu* (*Chloroxylon swietenia*).—Just as Vengai (*Pterocarpus marsupium*) is in demand for spokes and felloes, this is in great demand for wheel boxes. The minimum diameter should be 1′. It is got from the Central Provinces and Nizam's territory at Re. 1 to Rs. 2 per c.ft. according to demand.

(*g*) *Gurjan* (*Dipterocarpus turbinatus*).—Scantlings 10′ and above are bought at Madras for Rs. 2 per c.ft. f.o.r. It is only recently introduced as a building timber and is becoming popular. Expenditure all told comes to Re. 1 per c.ft One merchant told me that he had brought Pali (*Dichopsis elliptica*) from Kailai, about a waggon-load some years back and it took him three years to sell it. *Three-ply-wood* is brought by merchants from Bombay at Rs. 2-8-0 per piece of 5′ × 5′ or Re. 0-1-7 per sq.ft. As I saw a piece in one depot I casually enquired wherefrom and at what rate it was purchased.

I personally think that we cannot do business with Rajahmundry, Bezwada, Guntūr, Kurnool and Bellary, because all our saw-mill depots are far away and our rates are higher than what they pay in the Nizam's State, Central Provinces and Dandelli.

HYDERABAD AND SECUNDERABAD

102. These are two important and rising cities in the Nizam's State. Good deal of timber is in demand in these two cities, but unfortunately it is being rapidly replaced by reinforced concrete. I noticed that even ordinary fencings round railway station platforms, lamp posts, floorings, sign boards, etc., are all made of reinforced concrete.

(*a*) Teak is in great demand here. The main source of supply is Burma via Cocanada, forests of Nizam State such as Warangal, Dornakal, Singareni, Paloncha, Dichapalli, Kummareddi, Mirzapalli and Akkanpet, and also the Balasah Government forests of Central Provinces. The local merchants were somehow or other not willing to give me their buying rates, but they have given the selling rates and the expenditure, which are given in Appendix IV. The buying rate can therefore be arrived at after deducting the expenditure and a profit of As. 4 to Rs. 1-8-0 per c.ft. from the selling price in proportion to the size of the scantling and planks.

In Central Provinces all timber is bought at a place called Alampalli. From there the expenditure all told comes to Rs. 1-4-0 per c.ft. Now that the new railway line Kazipet-Balasah is ready, the expenditure will be reduced to As. 10 per c.ft. This railway line, I was told, taps many forests of Nizam's territory which were not worked systematically in the past for want of transport facilities.

Scantlings are most in demand for doors and windows and a greater demand will arise when Oosmania University is constructed. Sizes in demand are for doors 3′, 3½′, 4′, 5′, 6′, 6½′, 7′ and 8′ of 4″×3″; for windows 2½′, 3′, 4′ and 5′ of 3″×3″; for ventilators 1½′, 2′, 3′, 4′ of 3″×3″. This is an unique opportunity to get rid of short lengths from our depots provided we can sell them f.o.r. Hyderabad at a cheaper rate than Burma teak. Annual consumption of teak may be roughly gauged from the value of teak sold annually which comes to Rs. 4,50,000 or roughly 90,000 c.ft. This includes teak poles sold in thousands from the Nizam State forests only.

(*b*) *Nallamaddi* (*Terminalia tomentosa*).—Logs are sold at Rs. 1-3-0 to Rs. 1-5-0 per c.ft. and scantlings at Rs. 1-6-0 to Rs. 2. These are bought from the Nizam State forests only. The expenditure comes to As. 4 per c.ft. The profit made by the merchants is about As. 4 to As. 8 per c.ft.

The selling rate of other species are as under :—Tirmen (*Anogeissus latifolia*) poles, As. 13 to Rs. 1-4-0 each. Abnus (*Diospyros melanoxylon*) poles As. 3 to Rs. 1-3-6 each. Satin (*Chloroxylon swietenia*) poles, Rs. 1-0-3 to Rs. 1-3-6 per c.ft. In addition to these, *Adina cordifolia*, *Odina wodier*, *Boswellia serrata* and *Hardwickia binata* are also in demand.

From a cursory glance I had at the Administration Report of one circle of Nizam's Forest Department I am led to believe that the State makes a good deal of revenue from its fuel and timber forests. The following figures for 1925–26 which I have copied down from the report will be interesting to note:—

Name of the State.	Revenue with grazing cess.	Revenue without grazing cess.	Expenditure.	Surplus with grazing cess.	Surplus without grazing cess.	Area.	Surplus per square mile with grazing cess.	Surplus per square mile without grazing cess.
	RS.	RS.	RS.	RS.	RS.	SQ. MILES.	RS.	RS.
Nizam	13,14,402	8,85,887	2,64,654	10,49,748	6,21,233	4,695	234	138
Madras Presidency.	52,99,016	...	39,69,651	13,29,365	...	19,128	69	...
Central Provinces.	52,52,563	...	31,13,045	21,34,518	...	19,627	109	...

TANJORE

103. Tanjore is a fairly large town with a population of 60,000. There are two more towns of equal importance, namely, Kumbakōnam and Negapatam.

There are five important timber merchants of whom I was able to interview two and the rest three were either out of town or engaged otherwise.

(*a*) *Teak* (*Tectona grandis*).—Burma teak sent by Steel Co. and Macgregors is in great demand. It is bought at Negapatam in logs at an average rate of Rs. 200 per ton or Rs. 4 per c.ft. The expenditure from Negapatam to Tanjore all told comes to As. 4 per c.ft. Logs are then sawn up into scantlings according to the demand. Often times people go direct to Negapatam and buy it instead of buying through the local merchants. Scantlings are also purchased at Negapatam at about Rs. 3 to Rs. 5 per c.ft. and sold locally at Rs. 5 to Rs. 6 per c.ft.

Reepers are bought as under :—

3′ to 5′, 2″×1″ at Rs. 150 per ton of 3,600 r.ft.
6′ and up, 2″×1″ at Rs. 240 per ton of 3,600 r.ft.
3′ to 5′, 2″×½″, at Rs. 170 per ton of 3,600 r.ft.
6′ and up, 2″×½″ at Rs. 225 per ton of 3,600 r.ft.

Malabar Teak.—It is stocked and sold by one merchant in small quantity. He buys at Kallai in sizes of 4″×6″, 4″×3″, 2″×3″ and 5″×4″, 10′ to 16′ in length at Rs. 2–2–0 per c.ft. It costs him As. 10 per c.ft. for its transport to Tanjore and he sells at Rs. 3–4–0 to Rs. 4–8–0 per c.ft.

(*b*) *Junglewood*.—Pillamarudu (*Terminalia paniculata*), Thadasal (*Grewia tiliæfolia*) and Benteak (*Lagerstrœmia lanceolata*) are bought in scantling sizes of 6″×4″, 4″×3″, 4″×2″, 3″×2″, 6′ and up in length at Vadakkancheri, Cochin State (28 miles by road to Olavakkot) at a flat rate of Rs. 12–8–0 per candy. It costs Rs. 2–8–0 per candy for carting to Olavakkot, Re. 0–4–8 per candy for loading, Rs. 6–2–0 railway freight and Re. 1 other expenses. Roughly it costs Rs. 1–11–7 per c.ft. at Tanjore depot.

Pillamarudu (*Terminalia paniculata*) scantlings are also got at Kallai at Rs. 1–12–0 per c.ft. and Thadasal (*Grewia tiliaefolia*), Benteak (*Lagerstrœmia lanceolata*) and Pali (*Dichopsis elliptica*) at Rs. 1–2–0 to Rs. 1–8–0 per c.ft. Expenditure all told from Kallai comes to As. 10. Reepers 6′ and up and 2″×1″ of poor quality are bought at Rs. 13–8–0 per Rs. 1,000 r.ft. Selling rate of scantlings is Rs. 2–8–0 to 3 per c.ft.

About 5,000 c.ft. of *Terminalia paniculata* and 2,000 c.ft. of junglewood are in demand every year and are bought at Cochin and Kallai.

(*c*) *Kolmarams.*—Kalpayane (*Dipterocarpus indicus*) and Vengai (*Pterocarpus marsupium*) are bought at Olavakkot at Rs. 3–8–0 each of 15′×6″×4″ and Rs. 3–8–0 per pair of chattams of 10′×6″×3″. At Kallai the same are bought at Rs. 4 each. The cost of transport per set of one kolmaram and two chattams comes to Rs. 2–8–0. Pali (*Dichopsis elliptica*) kolmarams are bought at Kallai at Rs. 3 to Rs. 3–8–0 each. About 3,000 sets are required annually.

(*d*) *Spokes and felloes.*—Teak felloes of $2\frac{3}{4}'$×7″×$2\frac{1}{2}''$ and $2\frac{3}{4}'$×10″×3″, and spokes of $2\frac{3}{4}'$×3″×2″ are bought at Palghat at Rs. 14 per set and at Kallai at Rs. 15 per set. The annual consumption is about 2,000 sets. Besides teak, spokes and felloes are made out of *Albizzia odoratissima* trees which are available locally.

One merchant complained that he had once approached our agent to buy some junglewood reepers. The agent could not supply them unless the order was for not less than 5,000 r.ft. and that too at the rate of Rs. 14 per 1,000 r.ft.

TRICHINOPOLY.

104. (*a*) *Teak.*—Burma teak is in great demand and is mostly bought at Negapatam. Logs of under 10′ lengths and 10′ and over in lengths are bought at an average rate of Rs. 150 and Rs. 200 per ton, respectively. The expenditure all told comes to Rs. 12 per ton.

Scantlings most in demand are 4″×1″, 4″×2″, 4″×3″, 3″×2″, 3″×4″, 5″×3″, 6″×3″, 6″×4″ and 7″×3″. Scantlings are bought at Negapatam at Rs. 225 to Rs. 235 per ton. Same sized scantlings of above 6′ are got at Kallai at a flat rate of Rs. 3 per c.ft. f.o.r. The expenditure on transport, etc., comes to As. 8 per c.ft. Burma teak scantlings are sold at Rs. 5 to Rs. 6 per c.ft. and Malabar scantlings at Rs. 4 to Rs. 5 per c.ft.

There is one merchant here who gets most of his teak from Trichur. I could not see him as he was out of the town.

Planks as a rule are sawn from Burma teak logs and sold at Rs. 5–8–0 to Rs. 6–8–0 per c.ft.

(*b*) *Spokes and felloes.*—Felloes of $2\frac{3}{4}'$×10″×$2\frac{1}{2}''$with spokes are bought in Malabar at Rs. 19 per set. Coupe contractors of Nagercoil (Tinnevelly District) supply curved felloes 2′ 8″×7″×$2\frac{1}{4}''$ at Rs. 14 per set of 12 felloes and spokes 2′ 8″×$3\frac{1}{2}''$×$2\frac{1}{2}''$ at Rs. 6 per set of 24, delivery Trichinopoly Fort Station. These are greatly in demand at Trichinopoly and are sold at Rs. 30 per set. The annual demand is for about 3,000 sets.

(*c*) *Junglewood.*—Pillamarudu (*Terminalia paniculata*) is in great demand. Sizes required are 3″×2″, 4″×2″, 4″×3″, 5″×3″, 5″×$2\frac{1}{2}''$ and 6″×2″, 8′ and up in length. It is bought at Kallai at Rs. 2 per c.ft. and sold at Trichinopoly at Rs. 3 per c.ft.

Poon (*Calophyllum tomentosum*), Pali (*Dichopsis elliptica*) and Kalpayane (*Dipterocarpus indicus*) scantlings of same size are bought in Malabar and Trichur at Rs. 1–3–0 to Rs. 1–5–0 per c.ft. and are sold locally at Rs. 2 per c.ft.

The annual demand of junglewood is about 3,000 to 4,000 tons.

Kolmarams (*Acrocarpus fraxinifolius*) kolmarams of 15′×7″×3″ are bought at Kallai at Rs. 6–8–0 each. The same rate holds good for a pair of chattams (10′×7″×3″), Pali (*Dichopsis elliptica*) and Kalpayane (*Dipterocarpus indicus*), 15′×7″×3″ are bought at Rs. 4 each and 15′×6″×4″ at Rs. 3–8–0 each.

Our agent, Mr. Rajagopala Acharya, has endeavoured his best to push our timber in this important market, but his success is not complete on account of the following complaints for which the department is primarily responsible.

(1) Sizes are not to the correct measurements. Width and thickness is generally less by 1/10th inch and in some instances more. It is alleged that the length is not even an inch more. Trichur supplies are always a bit more in sizes to allow for planing. I verified the dimensions of our timber as well as those from Trichur and I found that there is some truth in the complaint. It appears that one merchant had ordered two waggon loads of *Terminalia paniculata* and on receipt of timber he found that the sizes were not according to his requirements. He refused to take delivery of the waggons and Mr. Rajagopala Acharya's sub-agent had to store it elsewhere.

(2) There is always great delay in executing the order.

(3) Sometimes the sizes ordered by them are not available in our depot stocks.

(4) Our rates, and specially of higher sections, are more in comparison to Trichur, Palghat and Kallai rates. I verified some vouchers to satisfy myself on this point.

(5) Our timber is also defective. Out of 100 pieces supplied at least 15 will be defective. One merchant had sorted out all defective timbers to be shown to our agent. This I checked and found to be correct. These had cracks, several knots, unseasoned and crooked.

(6) When one particular kind of junglewood is ordered a mixed consignment is sent.

(7) If an order is sent direct the department would not allow two months' credit for payment. Dealers in Burma teak not only allow two months' credit, but if the amount is paid in cash a discount equivalent to two months' interest is granted. This credit business is only done on trust on the reputation of the firms.

The above complaints are more or less genuine and every attempt must be made to remove them as speedily as possible.

The grading rules must be revised and the rates for higher sections reduced. Rate for orders of special sizes, that is, sizes which do not come in our stock sizes should not be more than our standard rates.

SALEM

105. (*a*) *Teak* (*Tectona grandis*).—Burma teak is purchased at Madras. Scantlings of 4″×3″, 5″×2″, 5″×3″, 5″×4″, 6″×2″, 6″×3″, and 6″×4″ (6′ and up) are bought at an average rate of Rs. 250 per ton and under 6′ at Rs. 175. Logs of 12″ to 20″ squares and 12′ to 30′ length are bought at Rs. 227 per ton, and under 12″ squares at Rs. 190. Logs under 6′ are bought at Rs. 110 per ton. Cost to Salem all told comes to Rs. 20 per ton. Planks of 1″ thickness are sawn up locally and sold at Rs. 6–8–0 to Rs. 7 per c.ft.

Malabar Teak.—Sizes 4″×2″, 4″×3″, 5″×3″, 5″×4″, 6″×3″, 6″×4″, 8″×4″ and in length of 6′ and up are bought at Rs. 20 to Rs. 36 per candy according to quality. 4″×3″, 5″×3″ (9′ to 10′) and 6″×3″ of 12′ are more popular. Under 6′ sizes 3″×2″ and 4″×3″ are more popular and these are bought at Rs. 1–4–0 to Rs. 1–8–0 per c.ft. All scantlings are either got at Calicut or Palghat. The expenditure on transport comes to As. 7 to As. 8 per c.ft. The annual demand is 15,000 c.ft.

At Palghat and Kallai, special sizes if ordered with stock sizes a rate of As. 2 to As. 4 per c.ft. more is charged, but if special sizes are ordered separately, then a rate of As. 4 to As. 8 per c.ft. more over the rates quoted above are charged. Our rates for special sizes are more by one rupee over the standard rates.

(*b*) *Spokes and felloes.*—These are made locally from logs or bought at Palghat and Kallai. These are sold locally at Rs. 25 to Rs. 40 per set according to quality. Sizes are 3′×10″×2½″ for felloes, and 3′×3½″×2½″ for spokes.

(*c*) *Pillamarudu* (*Terminalia paniculata*).—This is greatly in demand. It is mixed with *Terminalia belerica* also. It is bought at Kallai, Palghat and Olavakkot from Rs. 1-14-0 to Rs. 2-2-0 per c.ft. and sold at Rs. 2-12-0 to Rs. 3 per c.ft. The sizes in demand are 4″×2″, 4″×3″, 5″×3″, 5″×4″, 5″×2″, 6″×4″, 12″×6″ and over 6′ in length. The annual demand is about 12,500 c.ft.

(*d*) *Chadachi* (*Grewia tiliaefolia*).—This is bought at Kallai in sizes 15′×8″×6″ at Rs. 4-8-0 each, and 16′×6″×5″ at Rs. 3-8-0 each. These are chiefly used as beams. The annual requirement is about 3,000 c.ft.

(*e*) *Kolmarams.*—Poon (*Calophyllum tomentosum*), Pali (*Dichopsis elliptica*) and Kalpayane (*Dipterocarpus indicus*) are obtained at Kallai, Olavakkot and Velapatnam (Cochin) at the following rates:—

15′ × 6″ × 3″	Rs. 3 each.
15′ × 6″ × 4″	Rs. 4 „
15′ × 7″ × 4″	Rs. 4-8-0 each.

Acrocarpus fraxinifolius 15′×6″×4″ at Rs. 12 to Rs. 16 per set of one kolmaram and two chattams. The annual demand is about 1,000 kolmarams.

Our agent, Mr. Rajagopala Acharya, has attempted to introduce our timber but with very little success. One merchant complained that he had ordered out four waggon loads of teak scantlings from our Kasargod depot. On receipt of the first waggon he found the scantlings not up to the required sizes and so he cancelled the order for the remaining three waggons. I verified the dimensions of few and found that they were less by 1/10th to 2/10th of an inch. Then in the presence of the same merchant I verified the sizes of scantlings purchased by him at Calicut and noticed the same difference. To this the merchant explained that for such scantlings they pay correspondingly reduced rates. He further complained that our rates for teak were high all round, and were high in higher sections of junglewood. Another merchant complained that he had placed orders for Pillamarudu *(Terminalia paniculata)* about a month back and it has not been complied with. Such complaints spread rapidly not only among merchants of the same town but also to merchants of adjoining towns. Thus we lose our reputation and merchants feel shy to do any kind of business with us. The Forest Utilization Officer and the Assistant Forest Utilization Officer must make it a point to visit all the merchants with whom we are dealing with, at least once a year and find out what grievances they have in respect of doing business with us. Such grievance, if genuine, should be at once set right. If a merchant has really suffered any loss owing to a mistake on our part, it is advisable to compensate him sometimes. We can thus gain confidence of the merchants and establish our reputation which is a main thing to achieve success in business circles.

COIMBATORE

106. (*a*) *Teak (Tectona grandis).*—It is bought mostly from the Pollachi Government depot in logs and scantlings. Expenditure all told comes to As. 4 per c.ft. on transport, etc. Logs inferior in quality to Pollachi are also bought at Olavakkot at Rs. 1-12-0 per c.ft. The expenditure on transport, etc., is As. 4 per c.ft. Teak is also bought at the following markets:—

KALLAI

107. Scantlings are purchased at Kallai at Rs. 4 per c.ft. and sold at Rs. 5 in sizes 5″×3″, 6″×3″, 7″×2½″ and above 9′. 3″×1½″, 3″×3″, 4″×1½″ and above 5′ are bought at Rs. 2-8-0 per c.ft. and sold at Rs. 3 to Rs. 4. Expenditure on transport, etc., comes to As. 6 per c.ft.

ERNAKULAM

108. Sizes 5″×3″, 6″×3″, 7″×2½″ and over 6′ are bought at Rs. 4 per c.ft.; sizes 3″×1½″, 3″×3″, 4″×1½″, and over 6′ at Rs. 3-12-0 per c.ft. Bigger sizes and longer lengths are bought at Rs. 4-8-0 per c.ft.

TRICHUR

109.—

4″×3″, 5″×3″, 4′ and up are got at Rs. 3-8-0 per c.ft.
6″×3″, 6″×4″, 10′ and up are obtained at Rs. 3-12-0 per c.ft.
4″×1¼″, 4″×1½″, 4″×1″, 3″×1″, 3″×1½″ and above 3′ at Rs. 3-8-0 per c.ft.
Planks 9″ to 18″ wide at Rs. 4-12-0 to Rs. 5 per c.ft.

Expenditure all told comes to As. 4½ to As. 5 per c.ft. According to one merchant the advantages of buying teak *(Tectona grandis)* at Trichur are:—

(1) Scantlings are converted from large logs, and as such they look like Burma teak in appearance,

(2) Higher sections are not charged more than the lower sections,

(3) Order for special sizes are executed more promptly and the extra charge is only As. 4 per c.ft.,

(4) Concession in measurement is shown for defective scantlings, and

(5) Selection is permitted from stock sizes.

The annual demand in teak at Coimbatore is about 80,000 c.ft.

There is demand for inferior quality of teak for making water tubs, for leather tanning. Sizes required are 3′×3″×1″, 3′×4″×1″ and 3′×2″×1″.

110. (*a*) *Pillamarudu (Terminalia paniculata)*.—Kallai scantlings 4″×2″, 4″×3″, 6′ and up are bought at Rs. 2 per c.ft. and 5″×3″, 6″×3″, 6″×4″, at Rs. 2-14-0 per c.ft. A flat rate of Rs. 2 per c.ft. is charged for all sizes bought at a time.

From Ernakulam hand-sawn scantlings of 8′×4″×2″ and 4″×3″, 5″×3″ of 4′ to 6′ and 5″×4″, 6″×4″ of 8′ and up are bought at a flat rate of Rs. 1-14-0 per c.ft. Planks 10″ to 18″ wide, 1″ thick and 6′ and up are bought at Rs. 2-8-0 per c.ft. The annual demand is about 60,000 c.ft.

(*b*) *Irul (Xylia xylocarpa)*.—Irul is bought at Kallai in the same sizes and at a rate higher by As. 4 per c.ft. than Pillamarudu *(Terminalia paniculata)*.

(*c*) *Benteak (Lagerstrœmia lanceolata)*.—Bought in same sizes as Pillamarudu *(Terminalia paniculata)* at Kallai, Ernakulam and Trichur at Rs. 1-8-0 to Rs. 2 per c.ft. Annual demand of Irul *(Xylia xylocarpa)* and Benteak *(Lagerstrœmia lanceolata)* is about 20,000 c.ft.

(*d*) *Irumbogam (Hopea parviflora)*.—5′×6″×4″ bought at Ernakulam for Rs. 3 to Rs. 3-8-0 per c.ft. and 3″×2″, 3″×1½″ and 6′ and up at Rs. 2 per c.ft.

(*e*) *Junglewood*.—This is bought at Kallai at Rs. 1-4-0 to Rs. 1-6-0 per c.ft. in scantlings. About 10,000 c.ft. is consumed annually.

(*f*) *Reepers*:—

Teak 2″×1″, Rs. 30 per 1,000 r.ft. 6′ and up.	Purchased at Kallai.
Pillamarudu *(Terminalia paniculata)*, 2″×1″, Rs. 16 per 1,000 r.ft. 6′ and up.	
Benteak *(Lagerstrœmia lanceolata)*, 2″×1″, Rs. 13-8-0 per 1,000 r.ft. 6′ and up.	

(*g*) *Kolmarams*.—Pali *(Dichopsis elliptica)* and Kalpayane (*Dipterocarpus indicus)* 15′×6″×3½″ to 4″ bought at Kallai at Rs. 3-8-0 to Rs. 4 each.

Acrocarpus fraxinifolius, 15′×7″×3½″ at Rs. 3-8-0 to Rs. 9 each.

111. *Spokes and felloes*.—They are generally obtained at the Pollachi Government depot. One merchant buys Teak *(Tectona grandis)*, Benteak *(Lagerstrœmia lanceolata)* and Pillamarudu *(Terminalia paniculata)*

logs at Pudukode in Cochin State gets them sawn in scantlings, and transports them to Coimbatore. Teak thus costs him Rs. 2 to Rs. 3 per c.ft. at Coimbatore depot, and Pillamarudu and Benteak at Rs. 2 per c.ft.

OOTACAMUND

112. Practically there is only one timber merchant by name Mr. Billimoria. The rest are building contractors who either purchase from Mr. Billimoria or buy their requirement direct in auction sales at Kargudi and at Pollachi. There is another merchant by name Elia Sait who has just started business and he may not continue in timber business long as he is inexperienced in this line. Nilambur Raja had also a depot once upon a time, but it was scrapped as it did not pay him. Mr. Billimoria buys timber at Madras, Kargudi and Nilambur Raja's forests. Being an old customer of the Raja he is able to get teak and junglewood at concession rates which he would not disclose to me.

(*a*) *Teak (Tectona grandis)*.—Burma teak is bought at Madras. Logs, long lengths from Rs. 160 to Rs. 200 per ton and short logs at Rs. 125 to Rs. 150. Scantlings of 7′ to 15′ length are bought at Rs. 250 per ton. The expenditure on transport, etc., comes to As. 13 per c.ft.

Logs are also purchased in Kargudi auction sales at Re. 1 to Rs. 2 per c.ft. Transport charges to Ootacamund by cart is Re. 1 per c.ft. These are sawn into scantlings at As. 8 per c.ft. and As. 10 per c.ft. for planks. The sizes in demand are 4″×3″, 4″×4″, 5″×3″, 6″×3″ and 6′ and up.

(*b*) *Karimarudu* (*Terminalia tomentosa*).—This is mostly purchased at Kargudi and is used at entirely for Public Works Department works. In auction sales it is bought at As. 3 to As. 8 per c.ft. and As. 11 per c.ft. in retail for selected best logs.

(*c*) *Pillamarudu* (*Terminalia paniculata*).—This is brought from Nilambur Raja's forests or other private forests.

(*d*) *Pali* (*Dichopsis elliptica*), *Poon* (*Calophyllum tomentosum*), *and Kalpayane* (*Dipterocarpus indicus*).—These are mostly used for roofing and flooring and are bought and sawn up in Nilambur forests only.

Blue Gum (*Eucalyptus globulus*) which is available locally is used generally by middle-class people except for doors and windows.

The annual demand for teak is 10,000 c.ft., and other species about 10,000 c.ft.

Mr. Billimoria complained to me that he had once placed an order with our agent to supply him scantlings of 4″×1″ and 2″×1″, but as they were out of stock he could not supply. He further complained that our rates are also high. He is of opinion that Kargudi teak is full of knots and cracks and as such in order to get good scantlings there is such an amount of wastage that the ultimate cost of scantlings works up to Rs. 5 per c.ft. It therefore pays him to buy Burma teak logs and scantlings at Madras.

VELLORE

113. (*a*) *Teak* (*Tectona grandis*).—Burma teak is in great demand for many a Public Works Department and missionary building under construction. Logs are bought at Madras at Rs. 3 to Rs. 5 per c.ft. and are sold at Rs. 3-10-0 to Rs. 6. The expenditure on transport, etc., comes to Re. 0-6-6 per c.ft. Scantlings are purchased at Rs. 3 to Rs. 5 per c.ft. and are sold at Rs. 4 to Rs. 6-8-0. Good many people even buy direct from Madras to save middle-man's profit.

Malabar teak is bought in small quantity at Kallai or Olavakkot at Rs. 1-12-0 to Rs. 2-5-0 per c.ft. in stock sizes, and Rs. 3 to Rs. 3-8-0 per c.ft. in special sizes. Stock sizes are sold at Vellore at Rs. 2-8-0 to Rs. 4 per c.ft. and special sizes at Rs. 4-8-0 to Rs. 5. The expenditure on transport, etc., comes to As. 13 per c.ft. The annual demand in Malabar teak is about 3,000 c.ft.

(*b*) *Pillamarudu or Kadukai* (*Terminalia paniculata*).—It is generally got in Malabar. Logs at Re. 1 to Rs. 1-8-0 per c.ft. Expenditure all told is As. 12 to As. 13 per c.ft. The selling rate is Rs. 2 to Rs. 2-8-0 per c.ft.

Scantlings are obtained at Rs. 2 to Rs. 2-2-0 per c.ft. and sold at Rs. 3 to Rs. 3-6-0. Sizes in demand are 8′ to 9′, 4″×2″ and 5″×2″, 6′×4″×3″; 8′×6″×4″, 10′×7″×5″, 12′×12″×4″, 8′ and up, 12″×4″, 12″×5″ and 12″×6″. It is sometimes sold mixed with *Terminalia belerica*, and *Terminalia chebula*.

The annual demand is about 1,500 c.ft.

(*c*) *Mathi or Karimarudu* (*Terminalia tomentosa*).—Sizes in demand are 4″×2″, 4″×3″, 4′ and up, 6′×5″×3″, 10′ and up 6″×4″, 5″×2½″. As a rule logs are purchased and cut up into the required sizes at As. 6 per c.ft. in scantlings. Logs are bought at As. 12 to Rs. 1-4-0 per c.ft. at various places in Mysore State such as Mysore, Nanjangud, Shimoga, Tarikere, Chikmagalur and Hunsur. Scantlings are sold at Rs. 2 to Rs. 3 per c.ft. The annual demand is not more than 1,000 c.ft.

(*d*) *Vengai or Honne* (*Pterocarpus marsupium*).—Logs are generally bought in Mysore State forests at Rs. 1-8-0 to Rs. 2-4-0 per c.ft., and are sold at Rs. 2-6-0 to Rs. 3 per c.ft. People prefer to buy it in logs and then have them sawn up into the required sizes. They do not prefer to buy it in scantlings as it loses its colour and deteriorates in quality on exposure. Sizes in demand are 10′ length of 5″×2″, 5″×2½″, 6″×2″, 6″×2½″, 6″×4″; 9′×5″×2″ and 4′×4″×2″. There is great demand here for conically dressed round verandah posts. Length is 6′ to 8′. The bottom diameter is 6″ to 12″ and the top diameter is five-eighths of the bottom diameter. Posts are to be dressed right up to the heartwood. They can be easily made from top ends and thick branches. These are bought at present at Olavakkot and Pattambi at Rs. 1-3-0 to Rs. 1-12-0 per c.ft. I think these can be made in Wynaad and sold at a profit at Mysore and at Nanjangud. The annual demand is about 2,000 posts.

(*e*) *Irul* (*Xylia xylocarpa*).—Like Vengai (*Pterocarpus marsupium*) this timber is also very useful for verandah posts and they are smaller in size than Vengai (*Pterocarpus marsupium*). Length is 6′ and the bottom diameter is 5″ to 7″. These are also bought at Olavakkot and Pattambi at Re. 1 to Rs. 1-3-0 per c.ft. These are sold at Rs. 2 per c.ft. The annual demand is about 1,500 posts. V. S. Muttukumaraswami Mudaliyar and M. P. Rajoo Pillai and Manikkam Pillai are the merchants who deal in these posts.

(*f*) *Kolmarams*.—Kalpayane 15′×6″×4″ are bought at Olavakkot at Rs. 3 to Rs. 3-8-0 each and chattams at Rs. 3-4-0 to Rs. 3-8-0 per pair. Kolmarams of 16′×6″×3½″ size are bought at Rs. 3-12-0 each. The Pali (*Dichopsis elliptica*) kolmarams are bought at Rs. 2-14-0 to Rs. 3-4-0 each.

The annual demand is about 1,000 kolmarams and chattams.

MYSORE

114. Mysore is a very great timber market from the point of view of supplies. It gets all its stock from the Mysore State forests, Wynaad and Nilgiris Forest Division, Coorg forests and some private forests. The species commonly sold in this market are Teak (*Tectona grandis*), Mathi (*Terminalia tomentosa*), Benteak (*Lagerstrœmia lanceolata*), Rosewood (*Dalbergia latifolia*), Vengai (*Pterocarpus marsupium*) and other miscellaneous species.

(*a*) Teak is in great demand in Mysore State and Bangalore. The Mysore State Railway and the Madras and Southern Mahratta Railway purchase a good deal of it in logs and in sleepers. The best logs of over 5′ in girth are bought by the Madras and Southern Mahratta Railway.

(*b*) *Vengai* (*Pterocarpus marsupium*).—This is in great demand in Mysore State, Bangalore and North Arcot districts for scantlings and verandah posts.

(*c*) *Mathi* (*Terminalia tomentosa*).—Logs are now greatly in demand in Kolar Gold Fields where the annual consumption is about 30,000 c.ft. The Public Works Department also makes a good use of it.

(*d*) *Manjakadambai* (*Adina cordifolia*).—This is as a rule not carted to Mysore. Timber merchants buy good selected logs in coupes at As. 2 per c.ft. Carting to Mysore costs As. 10 to As. 11 per c.ft. It is sold at Re. 1 per c.ft. It is usually sawn up into planks for doors and windows.

(*e*) *Benteak* (*Lagerstrœmia lanceolata*).—There is not much demand for this from the public. It is purchased by the Public Works Department and the Railways.

(*f*) *Saw mills.*—Mr. Tew has a portable saw mill of his own in Coorg forests. I was given to understand that he is given in coupes all top ends of teak and unsound teak at concession rates which he saws up into scantlings. His rate of supplies is as under: $6' \times 8'' \times 4\frac{1}{2}''$, delivery at Yedakore station, Rs. 4 per c.ft., $6' \times 3'' \times 4''$, delivery at Yedakore station, Rs. 3 per c.ft., other scantlings of above 5′, delivery at Yedakore station, Rs. 3 per c.ft., reepers per 1,000 r.ft., delivery at Yedakore station, Rs. 30, and felloes $2\frac{1}{2}' \times 10'' \times 2\frac{1}{2}''$ and spokes $2\frac{1}{2}' \times 1\frac{3}{4}'' \times 3''$, delivery at Mysore, Rs. 18 per set. There are two other saw mills at Mysore belonging to Mr. Tammayya and Mr. Narasinga Rao Sindhe.

The former gentleman had seen various saw mills in India with a view to install a most economical one in which the percentage of wastage would be the least. Most of his saws are band saws. He is also a timber merchant and so he sells all his best logs at a profit and saws up all unsound logs which he could not sell at profit and also a few good logs for planks. He is a furniture maker as well as a building contractor ; so all his sawn material is practically made use of by him. According to him the cost of production, without considering the interest on capital, depreciation, wastage, overhead charges and value of timber, comes to Re. 0–2–6 per c.ft. He also does job work and charges as follows:—

Teak (*Tectona grandis*), Re. 1 per 30 sq.ft. of sawn scantlings, Re. 0–6–5 per c.ft.

Vengai (*Pterocarpus marsupium*), Re. 1 per 18 sq. ft. of sawn planks, Re. 0–10–8 per c.ft.

Benteak (*Lagerstrœmia lanceolata*), Re. 1 per 25 sq.ft. of sawn scantlings, Re. 0–7–8 per c.ft.

Red Cedar (*Cedrella toona*), Re. 1 per 18 sq.ft. of sawn planks, Re. 0–10–8 per c.ft.

Mathi (*Terminalia tomentosa*), Re. 1 per 18 sq.ft. of sawn scantlings, Re. 0–10–8 per c.ft.

Rosewood (*Dalbergia latifolia*), Re. 1 per 16 sq.ft. sawn planks.

Percentage of wastage in sound logs is 20 per cent and unsound logs 30 to 40 per cent.

He sells teak scantlings under 5′ lengths at Rs. 2–8–0 to Rs. 3 per c.ft. and over 6′ at Rs. 3 to Rs. 6 per c.ft.

Mr. Narasinga Rao Sindhe does only job work in his saw mill, more or less at the same rates.

Both the mills are run by electricity.

I also visited the Nanjangud depot. The total quantity of sawn material carted by them was about 1,800 c.ft., of which about 1,000 c.ft. has been sold by the agent to two of the Bangalore merchants.

BANGALORE

115. This is a very important rising city and it consumes a good deal of timber every year.

The timber most in demand is Teak (*Tectona grandis*) and its annual consumption is about 2½ lakhs of cubic feet. It receives most of its supply from the forests of Mysore State, Coorg and Wynaad. Burma teak is also largely in demand and Malabar teak is limited to a very small quantity.

Teak logs from Mysore State, Coorg and Wynaad are sold locally from Rs. 2 to Rs. 4 per c.ft. Best logs are converted into planks and sold at a good profit.

Scantlings are bought at Madras (Burma teak), Shimoga, Malabar, Mysore and also at the Mysore State depot at Bangalore.

SHIMOGA

116. There is a saw mill belonging to Mysore State and has also a big sale depot. Selected scantlings in all sizes are sold to the public at Rs. 3-8-0 per c.ft., and planks of 12″ to 18″ width at Rs. 4 per c.ft. Besides scantlings are sold by public auction thrice a year in lots. The auction sale rates vary from Rs. 1-4-0 to Rs. 2-8-0 per c. ft. The expenditure all told from Shimoga to Bangalore comes to As. 8 per c.ft.

MADRAS

117. Scantlings of Burma teak are bought at Rs. 150 to Rs. 257 per ton, f.o.r., expenditure all told comes to As. 9 per c.ft. These are sold at Rs. 4 to Rs. 6 per c.ft. Good sized logs are sawn into planks and sold at Rs. 6 to Rs. 7 per c.ft. The wastage in hand sawing such logs is 3 per cent.

MALABAR

118. (*a*) Teak scantlings have so far been bought by two merchants through our agent from the Government depots at Kasaragod, Beypore, Olavakkot and Nanjangud. They complained that 10 per cent of the stock supplied was deficient in sizes. They seem to be quite satisfied with the quality of material supplied. They are of opinion that if we supply them in proper sizes and reduce our rates by two to four annas they would be able to sell our material cheaper and can easily compete with Burma teak. Of the material supplied from various depots they think that the Chedleth quality is best, then comes Beypore and then Kasaragod but they were not quite definite in their opinion from what I would make out from their talk. The expenditure all told from Kasaragod, Beypore, Olavakkot and Nanjangud comes to As. 12, As. 10, As. 9 and As. 6 per c.ft. respectively.

Teak sizes in demand are 2″×2″, 3″×1″, 3″×1¼″, 3″×2″, 3″×3″, 4″×1″, 4″×2″, 4″×3″, in short lengths and long lengths. In 6′ to 15′ lengths the big sizes in demand are 5″×3″, 5″×4″, 6″×3″, and 6″×4″. 4″×3″ size of 4½′ to 10′ is in demand for doors and window frames.

(*b*) *Benteak* (*Lagerstrœmia lanceolata*), *Vengai* (*Pterocarpus marsupium*) *and Mathi* (*Terminalia tomentosa*).—All these are bought from various depots belonging to Mysore State, Coorg and Wynaad and are sold in logs at Rs. 1-8-0 to Rs. 2-8-0 per c.ft. for Vengai (*Pterocarpus marsupium*), and Re. 1 to Rs. 1-12-0 per c.ft. for Mathi (*Terminalia tomentosa*) and Benteak (*Lagerstroemia lanceolata*). Rosewood is sold at Rs. 3-12-0 per c.ft.

(*c*) *Junglewood.*—There is a good demand for it and it is bought at Kallai mixed with *Terminalia tomentosa* and *Terminalia paniculata* at a flat rate of Rs. 1-4-0 per c.ft. These are sold at Rs. 1-14-0 to Rs. 2-2-0 per c.ft. *Terminalia tomentosa* and *Terminalia paniculata* are bought separately at Rs. 1-14-0 to Rs. 2 per c.ft. The merchants complained that owing to our high rates they cannot buy these species at our depots, because they are able to buy them elsewhere cheaper. From the Mysore State depot at Bangalore they buy *Terminalia tomentosa* scantlings at Rs. 1-4-0 to Rs. 1-12-0 per c.ft., *Terminalia paniculata* at Re. 1 to Rs. 1-8-0 and Benteak

(*Lagerstroemia lanceolata*) at Re. 1 to Rs. 1-8-0 per c.ft. It cannot possibly pay the Mysore State to sell at such rates after paying all expenses on transport from Shimoga to Bangalore. I was told that it does not pay the Mysore State and there is likelihood of closing down the Shimoga saw mill in spite of the fact that logs to the saw mill are transported cheaply by the light railway constructed in connection with Badravati Iron Works.

(*d*) *Kolmarams.*—Kalpayane (*Dipterocarpus indicus*) and Poon (*Calophyllum tomentosum*), 15′×6″×4″ bought at Kallai at Rs. 3-4-0 to Rs. 3-8-0 each f.o.r., Kallai. Expenditure on transport, etc., up to Bangalore comes to Rs. 1-4-0 each.

There are four band saw mills at Bangalore and they all do job work except two, which cut up unsound logs for furniture making. The owners of these two saw mills who are timber merchants also manufacture furniture. For job work they charge as under :—

Rupee one per 30 sq.ft. for Teak (*Tectona grandis*) and Vengai (*Pterocarpus marsupium*).

Rupee one per 25 sq.ft. for Benteak (*Lagerstrœmia lanceolata*) and *Adina cordifolia*.

Rupee one per 21 sq.ft. for Mathi (*Terminalia tomentosa*).

Rupee one per 18 sq.ft. for Rosewood (*Dalbergia latifolia*). Wastage is 10 to 15 per cent in rough squared logs, and 25 to 30 per cent in round logs.

Bangalore imports annually from stations on the South Indian Railway via Jalarpet, 36,065 maunds or 66,750 c.ft. of timber mostly in scantlings.

NELLORE

119. (*a*) Timber most in demand is Teak (*Tectona grandis*) and it is bought at Madras from the firms of Messrs. Doraiswami Ayyangar and Seshadri Ayyangar who are dealers in Burma teak.

Logs of R̲ mark and on an average 30 c.ft. each are bought at Rs. 177 to Rs. 221 per ton f.o.r. Logs of M̲ mark are bought at a rate of Rs. 195 per ton. The expenditure all told comes to Rs. 15 per ton. Logs are sold at a profit of 5 to 10 per cent. Teak scantlings, 3′ to 5′ length, are bought at Madras at Rs. 150 to Rs. 175 per ton f.o.r., and over 6′ length at Rs. 230 to Rs. 260. Sizes 4″×2½″, 4″×3″, 5″×4″ and 6″×4″ are in great demand. At Nellore people prefer to buy logs and have them sawn into the sizes required by them. They pay sawing charges at the rate of Re. 1 per 20 sq.ft.

The annual demand of teak is about 1,000 tons.

(*b*) *Junglewood.*—Gurjan (*Dipterocarpus turbinatus*) is well liked by the people. Scantlings are purchased at Rs. 105 per ton f.o.r., Madras, and reepers at Rs. 140 to Rs. 150 per ton of under 6′ lengths and 2″×1″. Sometimes when Gurjan is not available in sufficient quantity, red junglewood of Malabar very nearly approaching to Gurjan in colour is bought at Madras at Rs. 117 per ton and sold at Nellore at Rs. 3 per c.ft. Sizes in demand are 3″×2″, 4″×2″, 5″×2″, 6″×2″, 3″×4″, 5″×3″, 4″×4″, 6″×4″ and 5″×4″ in lengths 6′ and up. Size 10′×5″×3½″ is sold at Rs. 3-8-0 each.

The annual demand is 400 tons.

One merchant during the cyclone in December 1927 had bought at Kallai junglewood including Pali (*Dichopsis elliptica*), Poon (*Calophyllum tomentosum*) and Kalpayane (*Dipterocarpus indicus*) at Rs. 75 per ton and had paid Rs. 40 per ton towards expenses. He sold long lengths at Rs. 2-12-0 to Rs. 3 per c.ft. and had some difficulty in selling short lengths even at reduced rates.

Range Officer M.R.Ry. P. S. Varadakrishnamacharya gave me to understand that during the November 1927 cyclone, when he had been to Madras to purchase some tiles for repairing the forest bungalows, he had purchased from the Madras Government depot some Poon (*Calophyllum tomentosum*), Pillamarudu (*Terminalia paniculata*) and Red Cedar (*Cedrella toona*) scantlings to repair some buildings destroyed in the cyclone. He had then shown these timbers as well as our price lists to various timber merchants with a view to induce them to buy our timber. But the merchants complained that our rates were high and our terms regarding payment, etc., did not compare favourably to those shown by teak merchants at Madras.

There is a great demand in Nellore District for packing cases for mica. At present, cases made of Mango (*Mangifera indica*) planks are purchased from Messrs. Oosman Hajee, Sydenham Road, Madras. Cases as a rule are 21″ long, 15″ broad and 3″ to 12″ deep. They are bought as under at Madras f.o.r. :—

	RS.	A.	P.	
21″ × 15″ × 11″ or 12″	1	4	0	each.
21″ × 15″ × 9″ or 10″	1	3	0	„
21″ × 15″ × 7″ or 8″	1	2	0	„
21″ × 15″ × 5″ or 6″	1	0	0	„
21″ × 15″ × 3″ or 4″	0	11	0	„

The expenditure comes on an average to one anna per case.

The same Ranger had bought one case from our agent to show it to mica mine owners, but they found our rates very high.

I do not think that there is any scope for us to do any business at Nellore. Majority of the people are poor and they are satisfied with small poles of Red Sanders (*Pterocarpus santalinus*), Yellama (*Anogeissus latifolia*) and Mathi (*Terminalia tomentosa*) which they are able to get from the local forests of Nellore. However, our agent must try and speak to these merchants and see if he could secure orders.

VĀNIYAMBĀDI

120. This is an important Muhammadan centre. It is situated more centrally to Mysore and Madras markets than to Malabar.

(*a*) *Teak* (*Tectona grandis*).—Mostly Burma teak is bought at Madras in log and scantling form. Logs at Rs. 150 to Rs. 200 per ton and scantlings at Rs. 3 to Rs. 5 per c.ft. The expenditure all told comes to about As. 6 per c.ft. People generally go and buy their requirements direct from Madras also. The annual requirements of the timber merchants are about 10 tons. One merchant buys about one waggon load a year of teak from Cochin or Palghat. The sizes he requires are 6½′ to 7′×15″×1″ and 11′ to 12′×6″×3″. He buys these at Rs. 3-8-0 to Rs. 4 per c.ft.; incurs an expenditure of about As. 8 per c. ft. and sells them from Rs. 4-4-0 to Rs. 4-12-0 per c.ft.

Sizes in demand of Burma teak are 6′ and up in length and 2″×½″, 2″×1″, 3″×1″, 4″×1″, 4″×2″, 4″×3″, 5″×3″, 6″×3″, 6″×4″, 6″×1½″, 7″×1½″, and 8″×1½″.

(*b*) *Kadukai or Pillamarudu* (*Terminalia paniculata*).—Logs only are bought in Mysore territory either at Mysore, Tarrikere or Shimoga. These are generally bought in log form only and then sawn up into the sizes required by them. The popular sizes are 5′ to 13′ length and of 2″×4″, 3″×5″, 4″×3″, 6″×3″ and 6″×4″. The buying rates in Mysore territory are Re. 1 to Rs. 1-4-0 per c.ft. The expenditure comes to As. 10 per c. ft. from Mysore, As. 12 from Tarrikere, and As. 14 from Shimoga. The selling rate is Rs. 1-12-0 to Rs. 2-4-0 per c.ft. Logs are occasionally bought at Palghat also.

(*c*) *Vengai or Honne* (*Pterocarpus marsupium*).—Logs are bought from depots in the Mysore territory at Rs. 1–4–0 to Rs. 2 per c.ft. and sold at Vāniyambādi at Rs. 2–4–0 to Rs. 3 per c.ft. These are then got sawn up into the required sizes by purchasers. Small pieces of Vengai which would be considered as waste are converted into crowns to be placed over verandah posts. A sample of it can be obtained and tried in the workshop at Olavakkot. These are sold at As. 10 to Rs 1–4–0 per pair. Similarly teak crown pieces are also prepared and sold at the same rates. Vengai posts of 6′ to 8′ length and one foot diameter at base and 8 inches at top are bought at Palghat at Rs. 20 to Rs. 22 per candy. The expenditure on transport, etc., comes to Re. 0–9–6 per c.ft.

The annual demand of Vengai is about 40 tons.

(*d*) *Irul* (*Xylia xylocarpa*) *vittams.*—These are 6″ to 9″ square and 12′ to 20′ long. These are obtained at Palghat and Mysore territory at Re. 1 to Rs. 1–4–0 per c.ft. and are sold at an average rate of Rs. 2 per c.ft. Annually there is a demand of 11 tons which includes small verandah posts as described under Vellore market.

(*e*) *Miscellaneous species.*—These are purchased in scantlings from Palghat and Olavakkot Government depot. From private merchants at Palghat these are bought at Rs. 1–10–0 to Rs. 1–12–0 per c.ft. and are sold at Rs. 2–8–0 per c.ft. The expenditure all told comes to As. 8 per c.ft. One merchant who had bought two waggon loads through the Government agent complained that the lengths ordered by him were not supplied. He had no complaint to make about our rates, except that with the same rates he can buy elsewhere good selected scantlings. The quality supplied by us were not perfect and he showed me a few scantlings which had knots, cracks, etc. He further suggested that no discount is now given to them and as such the agent must not sell at the wholesale rate to retail buyers of under one waggon load of timber.

(*f*) *Kolmarams and chattams.*—Pali (*Dichopsis elliptica*) kolmarams of $15' \times 6'' \times 4''$ are bought at Palghat or Kallai at Rs. 2–4–0 to Rs. 3–8–0 per kolmaram or per pair of chattams. The expenditure per kolmaram comes to Rs. 1–8–0.

Kalpayane (*Dipterocarpus indicus*) kolmarams of $15' \times 6'' \times 4''$ of very good quality are bought at Palghat at Rs. 4–6–0 each.

The annual demand of kolmarams is about 1,000.

(*g*) *Teak spokes and felloes.*—These are bought at Rs. 16 to Rs. 25 per set. Felloes are curved and are $2\frac{3}{4}' \times 7'' \times 2\frac{1}{2}''$. It costs Rs. 3 per set from Palghat.

The quantity of timber imported from stations on the South Indian Railway via Jalarpet, i.e., mostly from Malabar and Cochin, are as under for stations on the Bangalore-Arkonam line :—

Stations.	Maunds.	Tons.	C.ft.	Remarks.
Gudiyattam	2,060	76	3,800	27 maunds = 1 ton.
Ambur	5,786	214	10,700	1 ton = 50 c.ft.
Vaniyambadi	4,969	184	9,200	As a rule a ton of Burma teak of 50 c.ft. on weighing weighs more on railway scales. Therefore by railway 1 ton it comes to 42 c.ft. The marginal figures in c.ft. are approximate on the basis of 1 ton = 50 c.ft.
Kolar Gold Fields	28,965	1,073	53,650	
Malapatti	565	21	1,050	
Kuppam	3,120	116	5,800	
Bowringpet	487	18	900	
Bangalore	36,065	1,336	66,800	

MADURA

121. It is the second largest city in Madras Presidency and so a large quantity of timber is consumed annually. The greatest demand is in teak (*Tectona grandis)* and pillamarudu (*Terminalia paniculata*).

(*a*) *Teak* (*Tectona grandis*).—Burma teak of marks B.B. Co., Steel and McGregor is bought in large quantity from Madras, Negapatam and Tuticorin. At each of these centres logs are sold on invoices which are prepared in advance by the agents. Each invoice is made up of $12\frac{1}{2}$ tons of logs varying in size from 10″ to 30″ squares and having average logs of 25, 30 or 35 c.ft. in each invoice. These logs are then bought by Madura merchants at Rs. 150 to Rs. 200 per ton according to the average cubical contents of logs noted in the invoice.

Scantlings.—These are also sold on invoices in which scantlings of various lengths and sizes are detailed out. There will be three length classes in each invoice :

(*a*) 1′, $1\frac{1}{2}$′, 2′ ;
(*b*) 3′, 4′, and 5′ ;
(*c*) 6′ and above.

The sizes in demand in (*a*) class are 2″×1″, 2″×2″, and 2″×3″ which are purchased by wholesale dealers at Rs. 110 to Rs. 120 per ton f.o.r. The sizes in demand in (*b*) class are $1\frac{1}{2}$″×1″, 2″×$\frac{1}{2}$″, 2″×1″, 2″×2″, 3″×$1\frac{1}{2}$″, 3″×2″, 3″×3″, 3″×4″, 4″×4″, 5″×4″, 6″×4″, 4″×$1\frac{1}{2}$″ and 4″×2″, and these are purchased at Rs. 115 to Rs. 165 f.o.r. per ton. In (*c*) class the sizes in demand are 7′ to 8′×4″×3″, 9′ to 11′×5″×$2\frac{1}{2}$″, 9′ to 11′×5″×3″, 10′ to 12′×6″×$2\frac{1}{2}$″, 10′ to 12′×6″×3″ ; in above 6′, 3″×2″, 4″×2″, 4″×$2\frac{1}{2}$″ are common. These are purchased at a rate of Rs. 180 to 250 f.o.r. per ton. At Madras owing to less steamer freight these three classes are sold at Rs. 5 per ton less than at Tuticorin and Negapatam. The expenditure all told to Madura from Madras, Negapatam and Tuticorin comes to Rs. 15, Rs. 9–8–0 and Rs. 7–8–0 per ton, respectively. Burma teak is sold at Madura at an average profit of As. 4 per c.ft.

The annual demand of Burma teak is about 2,100 tons.

Besides, teak is purchased in large quantity from the Travancore State depots at Edaman, Tenmalai, Punalur and Quilon and is also bought from private timber merchants in the State. Logs are generally sold at these depots at Rs. 1-8-0 to Rs. 3–4–0 per c.ft. and the expenditure to Madura comes to Re. 0–6–6 per c.ft. Scantlings (hand-sawn) are sold by private merchants at Rs. 1–12–0 per c.ft. for under 6′ lengths and at Rs. 2–8–0 to Rs. 3–4–0 per c.ft. for 6′ and over in lengths. Selection of scantlings is allowed by these private merchants. These are sold at Madura at a profit of As. 4 to As. 8 per c.ft.

Annually about 900 tons are thus bought from Travancore State.

One merchant has the monopoly of buying all teak logs on the Travancore frontier, i.e., round about Kumili. He buys at Rs. 2 to Rs. 3 per c.ft. delivery at Madura and sells it at Rs. 2–8–0 to Rs. 3–8–0 per c.ft. He thus buys and sells annually about 15,000 c.ft.

(*b*) *Pillamarudu* (*Terminalia paniculata*), *Karimarudu (Terminalia tomentosa)*, *Vengai (Pterocarpus marsupium)*, *and Benteak (Lagerstroemia lanceolata)*.—These are purchased in logs from Travancore State depots at As. 12 to Rs. 1–4–0 per c.ft. except Vengai which is bought at Rs. 1–4–0 to Rs. 1–8–0 per c.ft.

At the same depots hand-sawn scantlings are also sold in public auction in lots in which all sizes are mixed up. Lengths are always above 6′. These are sold at the rate of Rs. 1–6–0 to Rs. 1–10–0 per c.ft. for Pillamarudu and Benteak and Rs. 1–8–0 to Rs. 1–12–0 for Karimarudu and Vengai. The private merchants also sell all species mixed up at the same rate, but if ordered to supply species-war, they will charge As. 2 per c.ft. extra. Their lengths are always above 7′. The private merchants execute an

order of 1 waggon load in a fortnight and for each additional waggon load they take a week extra.

Sizes in demand are—

Pillamarudu, 8′ and above, 3″×1½″, 3½″×1½″, 4″×1½″, 4″×2″, 4″×3″, 5″×3″, 5″×4″, and 6″×4″.

Karimarudu, 7′ to 9′×4″×3″, 9′ to 10′×5″×2½″, 9′ to 11′×5″×3″, 10′ to 11′×6″×3″ and 6″×2½″, over 8′, 6″×4″.

Vengai, same sizes as Karimarudu plus 9′×6″×2½″ which are useful for chattams.

Benteak, sizes are got sawn up according to the requirements of the Public Works Department and the Railway.

The annual consumption of Pillamarudu (*Terminalia paniculata*) is 75 waggon loads of 600 c.ft. each or 45,000 c.ft. and of the other three species is 25 waggon loads or 15,000 c.ft.

(*c*) *Manjakadambai* (*Adina cordifolia*).—Logs are bought by the merchants in Cumbum Range and from Kumili forests at As. 14 to Re. 1 per c.ft. and sold at Rs. 1–8–0 to Rs. 1–12–0 per c.ft. Planks are sold at Rs. 2 to Rs. 2–4–0 per c.ft. Occasionally planks are bought from Travancore State forests at Re. 1 to Rs. 1–4–0 per c. ft. The annual demand is about 50 tons.

(*d*) *Kolmarams and chattams.*—Timber merchants do not deal in these, but bamboo merchants purchase and sell about 25,000 kolmarams and 6,000 chattams annually.

The species in demand for these are Pali (*Dichopsis elliptica*), Malavembu (*Acrocarpus fraxinifolius*), Kalpayane (*Dipterocarpus indicus*), Vengai (*Pterocarpus marsupium*), Vegai (*Albizzia odoratissima*), Benteak (*Lagerstrœmia lanceolata*) and Karanji (*Balanocarpus utilis*).

Sizes in demand are 16′×6″×4″, 16′×6″×3½″ and 16′×5″×3″ for kolmarams and 10′ × 6″ × 3½″ for chattams.

These are generally purchased at Palghat, Kallai, Badagara in Malabar, Tenmalai in Travancore State and at Kallidaikurichi in Tinnevelly District.

Kolmarams of above sizes and of good quality are bought at Rs. 3 to Rs. 3–8–0 each except *Acrocarpus fraxinifolius* which is purchased at Rs. 6–8–0 each and of poor quality at Rs. 1–12–0 to Rs. 2–0–0 each. Kolmarams of 16′×5″×3″ are bought cheap at Rs. 1–12–0 to Rs. 2–0–0 each. The cost of transport, etc., comes to As. 15, 7 and 8 each from Malabar, Kallidaikurichi and Tenmalai, respectively.

The selling rate of one kolmaram or a pair of chattams is :—

Bigger size and good quality, Rs. 4–4–0 to Rs. 5 each.
Smaller size and good quality, Rs. 2–8–0 to Rs. 3–8–0 each.
Bigger size and poor quality, Rs. 2–8–0 to Rs. 3–8–0 each.

Chattams are also made locally and hence the number imported is less than kolmarams.

(*e*) *Spokes and felloes.*—These are made locally from Kumili Teak or Teak from the local Government forests, and Vegai (*Albizzia odoratissima*).

Three merchants have bought teak and junglewood to an extent of 15,000 c.ft. from the Government depots through our agent. Their complaint was also about the deficiency in sizes. They do not prefer our dead-lengths exact to the foot. They want it more by few inches in fractions of quarter foot. They suggest that charges may be made as is done in the case of Burma teak, i.e., to ignore the length up to 8″ and to charge for one foot for lengths of 9″ and above. They want the rates to be reduced for higher sections of 5″ and 6″ of teak and to adopt a flat rate of Rs. 2 per c.ft. in A group. The demand in lengths for A and B groups is 8′ and over. One merchant complained that there are great

delays in the execution of orders and much time is wasted over correspondence. He suggested that as Olavakkot is an important depot, Mr. Dawson who is in charge of the mill may be given full powers to transact business on the spot instead of the merchants to go back.

One merchant complained that when he wanted quotations for certain stock sizes, the Forest Utilization Officer quoted very high rates over the wholesale rates and few annas more over the standard rates, though his whole order amounted to over 400 c.ft. This was probably done with a view to safeguard the interest of the agent and if my presumption is correct, then the best course is to supply all direct buyers at the depots at standard price list if the order is less than the quantity allowed under the wholesale rates. If the quantity entitles him to buy at wholesale rate then it should be allowed and the agent may be paid his commission so that he may not be a loser. It is our duty to encourage and give every facility to direct purchasers also so that our depots may be patronized more and more by them and finally we may dispense with our agent and save his annual commission of nearly Rs. 20,000 or dispense with the Utilization Department whichever proves more expensive to the Government.

KUMBAKŌNAM

122. Population is 60,700 and it is the largest town in Tanjore District.

(*a*) Teak (*Tectona grandis*).—Burma teak is in great demand. Mr. V.M.R. Naidu & Son, timber merchant of Madras, has branch firm in Kumbakōnam. I was told that this firm in addition to buying teak of B.B. Co., Steel Co. and Macgregor, buys it direct at Rangoon from Burmese and Chinese merchants and ships it direct to Madras on their own responsibility. There is another firm by name Ponnuswami Chettiyar which deals only in Burma teak.

These two firms and the other merchants buy teak of B.B. Co., Steel Co. and Macgregor at the following rates :—

1′ to 1½′ lengths, Rs. 80 to Rs. 115 per ton f.o.r.
3′ to 5′ lengths, Rs. 150 to Rs. 175 per ton f.o.r.
6′ and up lengths, Rs. 180 to Rs. 235 per ton f.o.r.
Special orders Rs. 257 per ton f.o.r.

Expenditure all told from Madras comes to Rs. 18 per ton, and from Tuticorin Rs. 10 per ton, but as the selling rates for Burma teak at Madras are cheaper by Rs. 5 per ton it pays the merchants to buy it at either of these places according to demand and availability of railway waggons.

Through our agent two firms of S.K. Bros. and V. Krishnamurthi Ayyar have bought nearly 300 tons of teak from Olavakkot and Beypore. The expenditure from Olavakkot all told comes to about Rs. 25 per ton. Their complaint is that on account of our high rates in higher sections they have not bought any sizes of 5″ and 6″ which they can buy in Burma teak at Rs. 235 per ton. They further complained that our rates for reepers are comparatively higher than Rangoon teak as our quality is very inferior. I do not think that this is a genuine complaint. Our rates are on the contrary just the same or even little less. There is demand for reepers of 1½″ × 1″ and this we should try and supply. This sized reepers of 3′ to 5′ and 6′ and up of Burma teak are sold at Rs. 95 and Rs. 110 per ton respectively, f.o.r.

They further suggested that we need not saw up planks, but instead supply them blocks of 3″ to 6″ thickness and 10″ to 18″ wide at a reduced rate of As. 4 to As. 8 per c.ft. These they can then get sawn into any sized planks as it costs them only 6 pies per sq.ft. for sawing. This suggestion is based on the same lines as Burma teak. Burma teak planks are seldom imported into India. All planks are sawn up

from logs locally. They do not want lengths up to the exact foot, but lengths may be increased by ¼ ft., ½ ft. and ¾ ft. to meet the demands of the people. They further suggested that we should have two classes, first class without sapwood, knots and other flaws and second class with sapwood few knots and minor flaws and that the rates for first class may be increased by 5 per cent and the second class reduced by 5 per cent. I have already suggested this classification separately in connexion with the revision of the present grading rules.

These merchants had also one genuine grievance and that is our agent must not sell at wholesale rates to retail buyers of less than 8 tons as it naturally affects their business. I shall deal with this point later on in this report.

They also purchase rough squared teak poles from plantations of 4″×3″, 3½″×2½″, 5″×4″ of 6′ to 15′ and 6″×5″, 7″×5″ of 10′ and up, at Rs. 60 to Rs. 80 per ton. These are sound and contain sapwood. These are sold at Rs. 2–2–0 to Rs. 2–8–0 per c.ft. If our teak poles from Nilambur plantations do not realize good rates in sales they may be rough squared and sold to these merchants.

(*b*) *Junglewood.*—Gurjan (*Dipterocarpus turbinatus*) from Madras is bought in large quantity at Rs. 90 to Rs. 105 per ton. It is also used for kolmarams and chattams.

Junglewood is also purchased at Olavakkot through our agent from the Government depot. The sizes in demand are 4″×3″, 5″×4″, 6″×4″. The merchants suggested that our rates should not be higher than that of Gurjan. Irul (*Xylia xylocarpa*) vittams and Pillamarudu (*Terminalia paniculata*) vittams of 10′ and up in length and 6″×5″ to 10″×6″ are bought at Olavakkot at Re. 1 per c.ft. (hand-sawn) and Rs. 1-4–0 per c.ft. (mill-sawn). Irul (*Xylia xylocarpa*) verandah posts of 5′ to 6′ up in length and 6″ diameter at base and 4″ at top are bought at Olavakkot at Rs. 1–8–0 per c.ft. Merchants suggested that in A group they should not be forced to buy all species when there is only demand for *Terminalia paniculata*, *Terminalia tomentosa*, and *Lagerstrœmia lanceolata* (Benteak). The rates in higher sections of 5″ and 6″ should also be reduced.

(*c*) *Rosewood* (*Dalbergia latifolia*).—One Mr. K. Krishnamurti Ayyar said that if Rosewood is sawn up in sizes just like teak up to 4″×3″ sections and also planks there would be good demand up to 50 tons per year. He suggested that the rates should be lower than teak and higher than group A.

There is also demand for rosewood pillars of 7′ and 8′ lengths and diameter at base of 10″ to 12″ and at top 6″ to 7″. These they will buy at Rs. 2–8–0 per c.ft. and of smaller diameter, i.e., 6″ at base and 4″ at top at Rs. 2 per c.ft. There is an annual demand of 300 pillars of big size and 500 pillars of small size.

(*d*) *Spokes and felloes.*—These are generally made out of Burma teak locally. But sometimes curved felloes of 2′–8″×7″×2½″ are purchased at Palghat and Trichur at Rs. 12 to Rs. 24 per set. The expenditure to Kumbakonam comes to Rs. 5 per set.

Our agent, Mr. Rajagopala Acharya, in my opinion has done well in this town, but if he succeeds in working round the other two merchants who are dealing only in Burma teak he will be able to do still better business.

The selling rates are 12½ per cent more over the net cost at Kumbakonam, of teak, junglewood, kolmarams, spokes and felloes.

MĀYAVARAM

123. Though the population is only 28,600 yet the demand for timber is increasing of late in this town, because owing to its unique position (as

a big railway junction) people from surrounding rich villages come to this place to purchase their timber requirements. The greatest purchasers are Muhammadans who return rich to their villages from Penang, Malaya States and Burma, where fortune favours them in business. Besides, very lately the port of Tranquebar which is only 15 miles from Mayavaram is receiving direct shipments of teak from Burma (Rangoon) which is sold at Rs. 7 less per ton than at Madras and the expenditure from Tranquebar to Mayavaram is comparatively very little, i.e., Rs. 6 per ton.

Till now there were only two firms, S. K. Bros. and S. Rajam Ayyar, but since last three months, V. Krishnamurti Ayyar of Kumbakonam has opened a branch here on large scale and has started very well.

On an average about 600 tons of Burma teak and about 200 tons of Malabar teak is consumed annually.

Burma teak is bought at Madras and at Negapatam at the same rates as mentioned against Kumbakonam. The expenditure from Madras comes to Rs. 15 per ton and from Negapatam Rs. 8 per ton.

Malabar teak is bought through our agent and also from private merchants at Olavakkot. What is generally bought from the latter is only rough squared poles. The expenditure all told comes to As. 7 per c.ft.

(*b*) *Junglewood.*—Pillamarudu (*Terminalia paniculata*) and Karimarudu (*Terminalia tomentosa*) logs are bought at Olavakkot at Re. 1–4–0 per c.ft. f.o.r., Mayavaram. These are then sawn into scantlings and sold or purchasers buy logs at Rs. 1–8–0 to Rs. 1–12–0 per c. ft. and have it sawn into their required sizes.

Scantlings of Pillamarudu (*Terminalia paniculata*), Karimarudu (*Terminalia tomentosa*) and Vengai (*Pterocarpus marsupium*) are bought in Travancore State at Rs. 2–4–0 per c. ft. f.o.r., Mayavaram and sold at Rs. 2–8–0 to Rs. 2–12–0 per c.ft.

Gurjun (*Dipterocarpus turbinatus*) is bought at Madras at Rs. 105 to Rs. 110 per ton in sizes 16′ × 6″ × 2″, 12′ and up of 4″ × 3″, 14′ to 15′ of 5″ × 3″ and 6″ × 3″. These are used for kolmarams, chattams and also house-building.

(*c*) *Black Chuglam* (*Terminalia Manii*).—Black Chuglam from Burma is bought at Madras for Rs. 78 to Rs. 90 per ton in sleeper sizes and is used for carts and buildings.

One merchant had bought one waggon load of B group through the agent about six months back. He has not been able to dispose of it yet, because people believe that it will be attacked by white ants.

CUDDALORE

124. The population of both old and new town is about 50,500. The old town forms the business centre and all offices of business firms like Parry & Co., Raleigh & Co., Volkart Bros., Customs Office, Port Office, the Imperial Bank, etc., are located here.

There are three timber merchants of whom S. Govindaswami Chetti holds the monopoly of teak of B.B.T.T. Co. for this port. He supplies Burma teak logs and scantlings to several villages and towns round about. He is not in need of our teak but he has promised to do some business in junglewood through the Agent provided our rates in higher sections are reduced. He buys rosewood (*Dalbergia latifolia*) log from Mr. Kalappa who was once a Range Officer in Coorg and who after resigning his post began taking leases of private forests in Wynaad in Mysore. I personally knew him since 1924 and he has a good business head. The logs supplied by him are crooked and straight mixed. The buying rate at Mysore varies from Rs. 1–2–0 to Rs. 1–4–0 per c.ft. and the

expenditure comes to about Re. 1. The straight logs of 8′ length are sold as verandah posts from Rs. 3-8-0 to Rs. 4-8-0 per c.ft., and crooked logs are sold for furniture making at Rs. 2 to Rs. 3 per c.ft.

He purchases Karimarudu (*Terminalia tomentosa*) logs also from Mr. Kalappa at Rs. 1 per c.ft. at Mysore. There is demand for scantlings of 4″×2″, 5″×3″, 5″×4″, 6″×3″, 6″×4″, 9″×6″ and 2″×½″, 2″×1″ for reepers. The annual demand will be about 50 tons.

Billu (*Chloroxylon swietenia*) logs are imported from Ceylon. These are purchased there at Rs. 2 per c.ft. The expenditure all told comes to Rs. 1-8-0 per c.ft. including 15 per cent duty, Rs. 5 per ton landing charges and As. 9 per ton port dues. These are generally sold for cart wheel boxes at Rs. 4 to Rs. 5 per c.ft.

There are two other merchants here. They buy teak of Steel Co., through a Negapatam timber merchant who has got the monopoly of Steel Co.

They buy Gurjun (*Dipterocarpus turbinatus*) also about 10 tons annually. They are of opinion that our junglewood would not suit them as they can buy Gurjun at Rs. 90 to Rs. 110 per ton, whereas our rate per ton of junglewood at our current rate, i.e., Rs. 100 per ton for A group 3″ and 4″ sections only, and Rs. 75 to Rs. 81 per ton for B group 3″ and 4″ sections ex-depot plus Rs. 28 per ton towards railway freight, carting etc., comes to Rs. 128 per ton for A group and Rs. 103 to Rs. 109 for B group f.o.r., Cuddalore.

The import of timber at Cuddalore port is as under :—

	TONS.
Teak (*Tectona grandis*) squares from Burma	2,200
Do. do. scantlings from Burma	867
Palmyra rafters from Ceylon	400
Trincomalee (*Soundal*) wood from Ceylon	125
Palai (*iron*) wood from Ceylon	50
Billudu or Vye wood (*Chloroxylon swietenia*) from Ceylon ...	19

PANRUTI

125. Panruti is only a small place of about 10,000 population but on account of its unique central situation to important surrounding villages it was a big business centre until April 1928. The opening of the new railway lines from Cuddalore to Vridhachalam and Villipuram to Trichinopoly *via* Vridhachalam has reduced the trade of Panruti to nearly half of what it was before.

There are three timber merchants at Panruti. Mr. S. Govindaswami Chetti of Cuddalore has a branch here. They buy rosewood (*Dalbergia latifolia*) up to 2,500 c.ft. per annum from Mysore only. They do not deal in junglewood.

There are two more merchants. According to their statement there is more demand for Burma teakwood logs only. People generally buy it and cut it up to the required sizes. Teakwood reepers are in great demand. The expenditure all told from Madras comes to Rs. 15 per ton and from Cuddalore Rs. 13 per ton.

(*a*) *Junglewood.*—Three years back junglewood from Malabar was in great demand but since Gurjun (*Dipterocarpus turbinatus*) has got popular among the public there is not much demand for it. The Gurjun sizes in demand 8′ and up, 6″ × 4″, 6″ × 3″, 3″ × 2″, 3″ × 1½″ and 4″ × 2″

(*b*) Rosewood (*Dalbergia latifolia*) is bought from Mysore merchants Messrs. Siddanatham Pillai and Kandaswami Pillai who generally buy from the Wynaad depot, at the rate of Rs. 1-6-0 to 1-12-0 per c.ft. The expenditure all told comes to As. 14 per c.ft.

(*c*) Irul (*Xylia xylocarpa*) veranda posts small and big sizes are bought at Olavakkot at Re. 1 to 1–8–0 per c.ft. Expenses come to As. 13 per c.ft. and these are sold at Rs. 2 to 2–8–0 per c.ft. If Rosewood posts of same size, i.e., 6′ lengths 6″ diameter at base and 4″ at top are supplied, they are prepared to buy at Rs. 2 per c.ft. It would be a good idea to convert some posts from top ends, stout branches and small trees felled in the coupes of Wynaad and Mount Stuart.

(*d*) *Kolmarams.*—15′ × 5″ × 3″ of Pali (*Dichopsis elliptica*) Kalpayane (*Dipterocarpus indicus*) and Shambagam (*Michelia Champaca*) are bought at Olavakkot at Rs. 2–12–0 to 3–4–0 each and sold at Rs. 4 to 5 each. Miscellaneous species are bought at Rs. 2–4–0 each. Expenses all told comes to As. 11 each.

Vengai (*Pterocarpus marsupium*) kolmarams of 15′ × 6″ × 4″ are bought at Olavakkot at Rs. 4–8–0 each. Expenditure comes to Rs. 1–2–0 each and are sold at Rs. 6–8–0 each.

Teak spokes and felloes are bought at Olavakkot at Rs. 10 to 20 per set. Expenses come to Rs. 7 per set. These are generally made at Vadakkancherry in Cochin State.

PONDICHERRY.

126. This is the only large town in the French territory and even there the demand for timber is not very heavy. The villagers are reported to be poor.

There are only two timber merchants and between them they sell annually about 160 tons of teak. They buy Burma teak through the Madras, Cuddalore or Negapatam agents though they get their supply direct from Burma through the B.I.S.N. Co.

There is no demand for junglewood. Gurjun (*Dipterocarpus turbinatus*) is used to a limited extent. Palmyra rafters from Ceylon are imported in large quantities and these are in great demand.

(*a*) *Kolmarams and shafts.*—For this a timber called Soundalwood from Ceylon is imported in logs. These are then sawn up into the required sizes.

There is demand for Rosewood (*Dalbergia latifolia*) logs of 3′ to 5′ girth and 6′ to 14′ lengths for veranda posts and furniture.

If the Agent were to visit these merchants then he may be able to do business in junglewood, Teak (*Tectona grandis*) and Rosewood (*Dalbergia latifolia*) only to a limited quantity.

CONJEEVARAM.

127. Though Conjeeveram is an important place the demand for timber is comparatively very poor. Well-to-do people who are in need of Teak buy it direct from Madras which is only 55 miles away from Conjeevaram.

Teak of very inferior quality containing sapwood and flaws is being bought at Feroke at a very cheap rate. The expenses on carting, railway freight, etc., works out to As. 10 a c.ft.

(*a*) *Junglewood.*—Black Chuglam (*Terminalia manii*) from Burma is bought in sizes at Madras at Rs. 90 to 110 per ton. The expenditure all told works out to As. 5 per c.ft. The sizes in demand are 6′ and up of 5″ × 4″, 5 × 3″, 4″ × 3″, 4″ × 2½″, 4″ × 2″, 3″ × 2″ and 3″ × 1½″.

Pillamarudu (*Terminalia paniculata*) logs are bought at Tarikere in Mysore State at As. 8 to As. 12 per c.ft. The expenditure all told comes to about As. 9 per c.ft. These are then sawn up in scantlings at the rate of 6 As. per c.ft. and sold at Rs. 2–8–0 to 3 per c.ft.

Pillamarudu (*Terminalia paniculata*) and Irul (*Xylia xylocarpa*) vittams are either bought at Kallai, Feroke or Olavakkot at Rs. 12 and

Rs. 12-8-0 per candy. Vengai (*Pterocarpus marsupium*) vittams at Rs. 13 to 14 per candy are bought.

Vengai (*Pterocarpus marsupium*) pillars of 10″ diameter and up are purchased at Rs. 18 per candy and of 6″ to 9″ diameter at Rs. 14 per candy. Expenses from Malabar side works out to As. 14 per c.ft.

Pillamarudu scantlings are occasionally purchased in Malabar at Rs. 1-14-0 per c. ft. The sizes in demand are, 6′ to 10′ lengths of 3″ × 2″, 3″ × 1½″, 4″ × 3″ ; 9′ to 10′ of 4″ × 2′ ; above 10′ of 5″ × 4″ and 6″ × 4″.

I do not think there is much scope of doing any business this side. The timber merchants seemed to me very stubborn in their opinion that any business in scantlings from our depots would not pay them and that the people do not care much for the cheap junglewood species, i.e., B group because they get destroyed by white ants.

Conclusion and Suggestions.

128. *Business centres.*—After my extensive tour on the West Coasts of Madras and Bombay presidencies, and the northern, central and southern districts of Madras presidency, I am of opinion that if business is done on sound lines our Agent can easily dispose of all our cut material which after all does not exceed 2 lakhs of cubic feet a year in central and southern districts of Madras presidency only, e.g., *Bangalore*, *Vāniyambādi*, *Bowringpet*, *Gudiyattam*, *Ambūr*, *Kuppam*, *Vellore*, *Salem*, *Madura*, *Trichinopoly*, *Tanjore*, *Kumbakōnam*, *Māyavaram* and *Cuddalore*. There is no need to go elsewhere. These are important centres and are so favourably situated as to minimize the cost on transport, etc. The new Pollachi-Dindigul line would be a great help to promote business.

129. *Sizes.*—(*a*) Great attention must be paid in the mills to see that scantlings are cut to the exact sizes. They should not be less by even a *thread's thickness* to the prescribed sizes. Preferably they may be a thread on the other side.

(*b*) Merchants do not approve of our cutting lengths to the exact foot. The excess may be in fractions of a foot, say ¼, ½ and ¾. The timber merchants have suggested that as regards payment nothing should be charged for under 9″ lengths and 9″ and above may be charged for as for one foot length. I believe this is the method adopted by Burma teak wholesale merchants, and I agree to this suggestion. It is a reasonable suggestion and may be adopted.

(*c*) There is demand for 1″ × ½″ reepers. This may be introduced. There is demand for scantlings of 1′ to 3′ lengths in certain markets as will be seen in the report. Such lengths as an experiment may be introduced.

(*d*) There is no demand in short lengths of A and B groups ; so these may be discontinued.

130. *Rates.*—The revision of the rates is proposed as under. There is a complaint everywhere that our rates are high.

Wholesale Price List.

Item.	Lengths 6′ to 15′.			Lengths 3′ to 5′.			Lengths 1′ to 2¼′.
	Teak.	A group.	B group.	Teak.	A group.	B group.	Teak.
Scantlings.	RS. A. P.	RS. A. P.	RS. A. P.	RS. A. P.			RS. A. P.
2″ × 2″	2 12 0	...	...	2 0 0	No demand for short lengths and should be discontinued.		1 8 0
3″ × 1″ ... ... / 3″ × 1½″ ... ... / 3″ × 2″	3 10 0	2 0 0	1 10 0	2 8 0			1 12 0

Item.	Lengths 6′ to 15′.			Lengths 3′ to 5′.			Lengths 1′ to 2½′
	Teak.	A group.	B group.	Teak.	A group.	B group.	Teak.
Scantlings—*cont.*	RS. A. P.	RS. A. P.	RS. A. P.	RS. A. P.			RS. A. P.
4″ × 1″ ... ... 4″ × 1½″ ... .. 4″ × 2″ ... ... 4″ × 2½″ ... ... 4″ × 3″	4 0 0	2 0 0	1 10 0	3 0 0	......		2 4 0
5″ × 2″ ... ... 5″ × 2½″ ... ... 5″ × 3″ ... ... 5″ × 4″	4 0 0	2 4 0	1 12 0	...	...	...	...
6″ × 2″ ... ... 6″ × 2½″ ... ... 6″ × 3″ ... ... 6″ × 4″	4 4 0	2 4 0	1 12 0	...	...	...	...

131. *Boards and planks 6′ to 12′ and reepers.*—Same rates as were revised on 5th November 1927. No useful purpose would be served by increasing these rates as merchants can get planks cut out of Burma teak logs cheaply and people would prefer to buy them than to buy ours at a higher rate.

In A group the rate of *Terminalia paniculata* may be raised by 2 annas per c.ft. and that of *Lagerstrœmia lanceolata* be reduced by 2 annas per c.ft. over the rates proposed above under A group. The rate of Pali (*Dichopsis elliptica)*, Kalpayane (*Dipterocarpus indicus*), *Acrocarpus fraxinifolius*, *Dysoxylum malabaricum* and *Grewia tiliæfolia* ought to be raised later on and should be a little over the proposed rates in B group as they are more useful timbers.

In grading rules I have proposed an inferior classification of Teak C class having sapwood and other minor flaws. These may be sold at a reduced rate of 8 annas per c.ft. in long lengths and 4 annas per c.ft. in short lengths.

No change in the standard price list of November 1927 is necessary.

It is proposed that wholesale and standard price lists be printed in large number and circulated to all the timber merchants in the important business centres. All changes in such rates must be promptly communicated to them. This is necessary first as an advertisement and secondly as a check for them to see that the Agent does not charge them higher rates.

The rates should be revised every six months to suit the market conditions then prevailing.

132. *Methods of sales.*—(1) Direct sale from the depots, and (2) Sales through the Agent.

(1) *Direct sale from the depots.*—This will be effected :—

(*a*) by retail purchasers of small selected quantities and the rates to be paid will be according to the standard price list. This practice was in vogue but it has been discontinued lately. I think it is a great mistake and it should not have been suspended under any circumstances, even though the Agent may have complained that the quantity left over for him after allowing selections, is inferior. After all, the quantity that may be sold under selection will not be more than 20,000 c.ft. annually and it would not possibly affect the Agent. It should be introduced again.

(*b*) by wholesale purchasers. The point is whether or not, we should sell to wholesale purchasers who come direct to us because we are also effecting such sales through our Agent. If we were going to have this Agent for all the years to come I would have said that direct sales from the depots should not be allowed. But as I think that one day

either the Agent must go or the Forest Utilization Branch must be wound up (because for the disposal of a limited quantity of timber two expensive agencies are a burden to the State) direct sales to the wholesale purchasers must be allowed. This must be encouraged as it gives quicker facilities to such men to buy their requirements and supply the needs of their customers promptly and secondly it gives more opportunity to the people to have a look at our depots and gives us the opportunity of coming more closely in contact with them to study the timber market conditions, etc. The Agent may rightly complain then that by such dealings he is losing his commission. Well, he may be told that he can have his commission and he rightly deserves it, because owing to his strenuous effort to sell our timber in outside unknown markets such wholesale purchasers come to know of our depots and come direct to us. I personally do not think many wholesale dealers will come direct to us as we do not give them credit of 2 months for payment as is done by the Agent.

(2) *Sales through the Agent.*—The Agent practically buys everything from us at the wholesale rates and he sells it at the same rates whether a purchaser buys in small quantity, i.e., under one waggon load or in a large quantity. The persons who buy in large quantities are generally timber merchants. Now timber merchants had complained to me that the Agent should not sell at wholesale rates to such retail buyers as it is likely to affect their trade. Their complaint seems to me quite reasonable and it is necessary that they must be granted some protection. It may be argued that in such instances a retail buyer does not get the benefit of reduced railway freight for one waggon load. But few retail buyers can combine and buy timber equivalent to one waggon load. Or if the distance to be traversed by railway is not much the difference in railway freight may come to only 1 to 3 annas per c.ft. which a retail buyer may not mind. To get over this difficulty it is suggested that anyone who buys under one waggon load should be charged by the Agent three, two and one anna per c. ft. for Teak A and B groups respectively more over the wholesale rates and to make up for the extra charges deduct at the rate of $1\frac{1}{2}$, 1 and $\frac{1}{2}$ anna per c.ft. from Agent's commission. This will give the Agent something more over his commission and it ought to satisfy him. Inasmuch as the new proposed rates are reduced to the minimum and as we are also paying commission to the Agent we cannot possibly afford to renew the practice of allowing discount. If discount is necessary then the rates should be proportionately raised.

133. *Hardness of Malabar Teak.*—Almost all merchants complained that carpenters prefer Burma teak to Malabar teak in their selection because they find the latter very hard to work with their tools. The reason is obvious because Malabar Teak is full of oil when compared to Burma teak which is seasoned five years in advance by girdling. A carpenter is generally an adviser to the person who wants to buy timber either for furniture or for buildings and he is allowed the choice in the selection of timber. In order to rectify it, it is suggested that all coupes may be laid out five years in advance and all teak trees therein girdled provided other silvicultural reasons permit such a procedure. This will make the timber light and floatable and will also have some effect on reducing the railway freight.

134. *Revision of grading rules.*—My experience of sawn material in our mills is very limited. This is a point which ought to be decided by the Forest Utilization Officer who has a much better experience as he constantly comes in touch with the passing and rejecting of various kinds of sawn materials in the Government depots. However, as I have been asked to make suggestions from the short experience gained by me during my recent tours I submit them as under. Our grading specially of Teak (*Tectona grandis*) is very high in comparison to what is sold at Kallai. During my tours I noticed that merchants prefer cheapness of

material to quality. I have already stated somewhere in my report that in the saw-mills scantlings having passable flaws are unnecessarily converted into short lengths or reduced in width or thickness. People are particularly anxious to have scantlings of exact dimension or even a little more say by 1/10th of an inch, or a little longer in length. All Burma teak scantlings are a bit oversized and so they get more preference from the people. The reason for so doing is obvious because it leaves a suitable margin for planing off. Merchants do not seem to mind minor knots or superficial cracks but they do seriously object to, bends, warps, or cracks. Sapwood, they do not mind either. I therefore suggest the following grading rules in our Government depots :—

(1) *A or Select Grade.*—These will contain no sapwood, no checks, no cracks, no knots (of doubtful quality) no bends. These will represent the best we can give for meeting special orders at special rates.

(2) *B or Standard Grade.*—These will have minor defects such as slight sapwood, ordinary seasoning checks, knots if they be tight ones, and slight wanes in small percentage of scantlings.

(3) *C or Commons.*—These are the sizes that do not go in either A or B. These are the class of material that the ordinary man at cheap rates will be satisfied.

In A, B and C sizes should be absolutely accurate. As a matter of fact size should be 1/10th inch more in A and B to allow for planing.

Once we begin to supply timber under this grading, timber merchants will be quite pleased and later on if we enhance our rates by few annas they will pay it willingly for B class.

135. There is a great demand for Vengai *(Pterocarpus marsupium)*, and Irul *(Xylia xylocarpa)* veranda posts at Vellore, Vaniyambadi, Ambur and Gudiyattam and I think Wynaad forests can supply both the species. Irul *(Xylia xylocarpa)* is felled in Kannoth range for sleepers, and posts could be got from top ends and thick branches. Similarly other divisions can also try.

Rosewood *(Dalbergia latifolia)* scantlings and pillars are in demand at Kumbakonam, and pillars are in demand at Mayavaram, Cuddalore, Panruti and Pondicherry. There is demand for white cedar *(Dysoxylum malabaricum)* in Guntūr district to make camp cots.

Adina cordifolia planks are in demand for doors and windows in Mysore territory.

There is a great scope for developing kolmaram and chattam trade in Pali *(Dichopsis elliptica)*, Kalpayane *(Dîpterocarpus indicus)*, Vengai *(Pterocarpus marsupium)* and *Acrocarpus fraxinifolius.*

Spokes and felloes of Vengai *(Pterocarpus marsupium)* are in very great demand in Cuddapah, Kurnool and Guntūr districts. They realize as much as Rs. 25 to Rs. 36 per set. The concerned District Forest Officers may be addressed to supply more information in detail on various sizes of spokes and felloes, their demand in each size and the rates at which they could be sold. Please see the appended statement for the demand of various species in various markets.

136. *Rectification of defects.*—The certain defects in Mill Engineering Branch and Forest Utilization Division brought to my notice by timber merchants are mentioned in my report but some of the important defects are recapitulated below:—

(1) Sizes are not to the correct measurements in respect of width and thickness.
(2) Lengths are alleged to be exact to the foot.
(3) Great delay in correspondence and execution of orders.
(4) Non-compliance of orders due to deficiency of stock.
(5) Defects in timber.
(6) Mixing up of species in A and B groups and supplying mixed species though the order may be for specific species.
(7) Not granting credit of two months time for payment.

Summary of demand of various species in various markets and their annual demand.

Name of the market.	The approximate annual demand in cubic feet of various species by timber merchants.										Remarks.
	Teak.	Terminalia paniculata.	Terminalia tomentosa.	Pterocarpus marsupium.	Kolmarams.	Adina cordifolia.	Benteak.	Junglewood.	Grewia tiliaefolia.	Irul.	
Cuddapah	750	...	L.F.	S.F.	...	...	...	...	...	...	L.F.=Local forests. S.F.=Spokes and felloes D=there is demand but quantity not known.
Bellary	25,000	...	50,000	...	3,000	Chattams yokes.	Small quantity.	...	...	...	
* Rajahmundry	...	...	...	...	...	...	...	...	...	...	
Bezwada	D.	...	D.	D.	...	...	...	...	...	...	
Guntur	D.	...	D.	..	...	...	...	...	...	...	
Kurnool	27,000	...	35,000	S.F.	...	D.	...	...	...	...	
Tanjore	D.	5,000	...	...	3,000	...	...	2,000	...	...	
Trichinopoly	D.	70,000	...	...	D.	Kolmarams.	...	80,000	...	...	
Salem	15,000	12,500	...	...	1,000	...	...	...	3,000	...	
Coimbatore	M. 80,000	60,000	...	...	D.	...	10,000	10,000	...	10,000	
Ootacamund	D.	D.	D.	...		...	...	D.	...	...	
Vellore	3,000	1,500	1,000	2,000 posts.	1,000	...	...	...	...	1,500 posts.	
Bangalore	M. D.	D.	D.	D.	D.	D.	D.	D.	D.	...	
Nellore	50,000	...	...	...	...	...	. .	L.F. Gurjun.	...	...	
Vaniyambadi	D.	D.	...	2,000 and posts.	1,000	...	...	Gurjun.	...	550 and posts.	
Madura	165,000	45,000	6,500	6,000	25,000	2,500	2,500	...	...	...	
Kumbakonam	D.	D.	D.	...	D.	...	...	D.	posts D.	...	Rosewood scantling and pillars in demand.
Mayavaram	D.	D.	D.	D.	D.	...	...	D.	...	...	Do.
Cuddalore	D.	...	D	...	D.	...	...	Gurjun.	...	...	Do.
Panruti	D.	...	...	...	D.	...	...	Do.	...	...	Do.
Pondicherry	8,000	...	...	...	...	...	...	Do.	...	...	Do.
Conjeevaram	D.	...	...	...	...	...	...	Black. chuglam	...	...	

* Vide the table at page 53.

I shall take up each one of these separately :—

No. 1.—It is essential that scantlings must be cut to the exact sizes if not a *thread* more to allow for planing. Burma Teak scantlings are always a bit oversized.

No. 2.—Lengths should not be cut to the exact foot. It may be more by 1″ to 11″. In charging lengths under 9″ should be ignored and 9″ and above may be charged as for one foot.

No. 3.—Some improvement ought to be made for the speedy disposal of correspondence and execution of orders. Logs ought to be always ready at the saw mills for executing special orders. As sufficient experience is now gained during the last few years on the execution of special orders some method may be devised for the speedy disposal of such orders.

No. 4.—If there is deficiency in stock sizes, orders should not be refused but the intending purchaser may be informed that the sizes ordered by him will be got ready and supplied to him by a certain time provided he agrees to it.

No. 5.—The defects in timber would be got over if the revised grading rules are adopted.

No. 6.—I am personally not in favour of mixing up species in A and B groups and more specially in A group. It would be much better to sort out the species separately according to demand, e.g., in A group as already suggested by me sell *Terminalia paniculata* at 2 annas per c.ft. more and *Lagerstroemia lanceolata* at 2 annas less than the prices fixed for A group. In B group also sell *Grewia tiliaefolia* at 2 annas per c.ft. more than the rate fixed for B group. The other species like, Pali (*Dichopsis elliptica*), Kalpayane (*Dipterocarpus indicus*), *Acrocarpus fraxinifolius*, *Dysoxylum malabaricum*, also ought to be separated from their respective group and sold at a higher rate than the present B group rates. I cannot make definite proposals because my experience is very limited but the Forest Utilization Officer and the Assistant Forest Utilization Officer might be able to formulate something definite with their experience of last few years.

No. 7.—There would be no harm on selling on credit if purchasers produce solvency certificate but as it would complicate matters and involve extra establishment and labour I am against it.

I also suggest that we must not rest satisfied with what the Agent does at various markets but the Forest Utilization Officer or the Assistant Forest Utilization Officer must make it a point to visit all our timber markets once a year and collect as much information as they could from timber merchants. This will enable them from experience gained to bring our business methods to perfection.

I once again lay important stress on building up our business with the Madras and Southern Mahratta Railway and South Indian Railways. These two railways consume a good deal of timber every year. We shall be able to get rid of all our stuff at good price and we need not depend upon the local markets to absorb all our stuff. The Madras and Southern Mahratta Railway buys practically the whole output of Dandelli saw mill from the Bombay Government and supplies all the stuff in its construction work right up to Guntūr and Bezwada. Why can we not build up the business with them when they are so near to us ?

Similarly also build up the business with the Public Works Department and Jails. The Madras Penitentiary for instance, buys all Teak and other species at fabulous rates from Madras.

There are certain industries under the control of the Director of Industries, where timber is required. As for example there are thousands of hand-looms in the Presidency for which certain sized timbers are required for making looms, shuttles and bobbins. In our work shop at Olavakkot, shuttles and bobbins can be made. The Director of Industries may be approached and he may be requested to furnish us all details.

J. A. MASTER,
Forest Economist, Madras.

9th October 1928.

APPENDIX I.

List of Timber Merchants.

Serial number and name of timber merchants.	Place.
1 Khan Sahib V. K. Unnikammu Sahib.	Olavakkot.
2 M.R.Ry. K. G. Ponnappa Nadar Avargal.	Do.
3 S. B. Chandamiah Sahib... ...	Do.
4 Krishnaswami Goundan ...	Do.
5 Chamiyappan Chettiyar	Do.
6 B. S. T. Mudaliyar, Timber merchant.	Kallai.
7 Mr. P. V. Ramunni ...	Do.
8 V. Pandy and P. Raman Nayar...	Do.
9 Virankunhi & Sons	Do.
10 K. Choyikutty, Timber merchant.	Do.
11 T. Kunhambu, Timber merchant.	Do.
12 M. Abdul Razaack Sahib... ...	Do.
13 S. Subbrayalu Nayudu ..	Do.
14 Palakandi Moideen Koya, Timber merchant.	Do.
15 P. Virankunhi & Sons	Do.
16 K. V. Assankoya Hajee, Timber merchant.	Do.
17 The New Malabar Timber Yards & Saw Mills.	Do.
18 The Standard Furniture Co., Ltd.	Do.
19 Dwarakadoss Waljee	Calicut.
20 Khan Bahadur Haji Alli Berami.	Do.
21 Khan Sahib Koyyalathadi Mammadkutti Haji.	
22 P. C. Imbichi Ahmed	Do.
23 Yusuff Sagar Abdul	Do.
24 S. V. Abu Bucker	Do.
25 P. S. Mamukoyya Hajee	Do.
26 M. Pakku Hajee	Do.
27 Cheriya Makkantagath Shiyali Koya.	Do.
28 Kattil Veetil Avaran Koya Hajee.	Do.
29 P. Kander	Ferok.
30 P. Pokker Ali	Do.
31 K. E. T. Kunhamed Haji ...	Do.
32 A. K. Kunhimian Hajee	Baliapatam.
33 V. Kadiri, Timber merchant	Do.
34 T. T. P. Kunhimoideenkutti, Timber merchant.	Do.
35 T. T. P. Mammad Kunhi, Timber merchant.	Do.
36 K. V. Mammad, Timber merchant.	Do.
37 T. P. Mammoo, Timber merchant.	Tellicherry.
38 Messrs. Maroli, Timber merchant.	Do.
39 Gopalan & Co., Timber merchant.	Do.
40 Chali Moosa, Timber merchant.	Do.
41 Thindimal Govindan, Timber merchant.	Do.
42 Kayyothi Kalandu, Timber merchant.	Do.
43 Persotamaseth near F. N. Heerji & Co.	Cannanore.
44 Gordhandoss Khimjee, Timber merchant.	Do.
45 Sri Lakshmi Mills... ...	Kasaragod.
46 K. Vittal Shenoy, Timber merchant.	Do.
47 Kunnil Mammi Kunhi Beary, Timber merchant.	Do.
48 K. P. Ramunii, Timber merchant.	Bunder, Mangalore.
49 Timber Mosline Trading Co. ...	Do.
50 Mr. P. D'Sa...	Do.
51 G. Rangappa Naik, Timber merchant.	Do.
52 N. G. Swarna, Timber merchant.	Do.
53 Mr. R. Serrao, Timber merchant.	Bunder (Kankanady post).
54 Udipi Manjunatha Sheriyar, Timber merchant.	Coondapur.
55 Rayappar Uduppar, Timber merchant.	Do.
56 Government Depot	Do
57 Kanara Rice & Saw Mills ...	Do.
58 Madev Purshotam Naik	Coondapur (Kandoleum).
59 Damodar Kamath	Coondapur (Acru).
60 Santhium Gabriel Lobo	Coondapur (Moira).
61 Daltabray Dadajee Ajguonkar ..	Coondapur (Margaoo).
62 C. D'Costa	Coondapur (Betty and Kurtorium).
63 Abdul Ahmed	Coondapur (Panjim).
64 Ananta Pai	Coondapur (Acru).
65 Mahdev S. V. Caculo, Government Contractor.	Coondapur (Panjim).
66 Nana Yesur Surve, Timber merchant.	Ratnagiri.
67 Furdonji C. Mody & Sons, Reay Road, Timber merchants.	Bombay.
68 Haji Hassam Haji Chottany, Khuddack, Timber merchant.	Do.
69 Hormusji Rustomji Wadi & Sons, Reay Road, Timber merchant.	Do.
70 Merueanji Kolabhoy, Surri, Bunder, Timber merchant.	Do.
71 Merwanji Cursetji. & Sons, Tank Bunder, Timber merchant.	Do.
72 Pestonji Jamasji & Co., Tank Bunder, Timber merchant.	Do.
73 Malabar Timber Agency. Pydoni Road, Khaddack, Timber merchant.	Do.
74 S. D. Gilder & Co., 40, Victoria Road, Byculla, Timber merchant.	Do.
75 Karimbhoy Shamsuddin, 14 Khoka Bazaar, Timber merchant.	Do.
76 Sorabje Hormusji & Co., Tank Bunder, Timber merchant.	Do.
77 Millards Timber & Trading Co., Ltd, Currimbhoy Road, Ballard Estate, Timber merchant.	Do.
78 Messrs. Mackenzies, Ltd., Pydonie Road, Khakkack.	Do.
79 Muhammad Dada & Co., Pydonie Road, Khaddack.	Do.
80 E. W. Kazi, Esq., Pine Mansiru, Reay Road, Timber merchant.	Do.
81 Adarjee Muncharjee Dalal, Bunder Road, Timber merchant.	Karachi.
82 Haji Helbubhai Gokal, Khorai Gardens.	Bombay.
83 Laljee Luckmadoss, Bombay Bazaar.	Do.
84 Sunderdass Vallabadoss, Bombay Bazaar.	Do.
85 Madavjee Viran Bombay Bazaar.	Do.
86 Porgjee Dayal, Jodia Bazaar ...	Do.
87 Kaderbhoy Karimjee, Frere Road.	Do.
88 Essajee Ibrahimjee & Co., Frere Road.	Do.
89 Nusserwanjee & Co.	Do
90 Mussajee Tajbhoy	Porbunder
91 Adamjee Mussojee	Do.
92 Adamjee Voljee	Do.
93 Liladhar Monjee	Do.
94 Bhagavanjee Govindjee	Do

APPENDIX I—*cont.*

List of Timber Merchants—*cont.*

Serial number and name of timber merchants.	Place.
95 Mammath Rahimtulla Darajeewalla.	Porbunder.
96 Tajbboy Jeevajee	Do
97 Hanasraj Vasanjee Sha	Veraval.
98 Abdul Habeeb Juosab ...	Do
99 Laljee Murarjee	Jamnagar
100 Abdul Ali Allibhoy Sam	Do
101 Husanbhoy Sulaimanjee Gandhi.	Do
102 Kaderbhoy Mammathbhoy ...	Do.
103 Allibhoy Ghulam Hussain ...	Do.
104 Chotalal Khoushal	Bhavnagar.
105 Geerdhar Muljee	Do.
106 Geerdhar Bhagawan	Do.
107 Nanjee Maneckklal	Do.
108 Habeerdoss Khoushal	Do.
109 Madanjee Nanjee	Do.
110 Mamilal Khandus	Do.
111 Kimjee Bhagwan	Do
112 Tribonan Dhanjee	Do.
113 Ranjimian Hayeevan ...	Do
114 Pithamber Dhosa	Do.
115 Chotalal Maldoss	Do.
116 Shah Balabhai Chaganlal, Panchkuva, Ravidi Bazaar, Lati, Ahmedabad. (There are many more merchants at Ahmedabad but I could not get their names for want of time).	
117 Lala Meah Sahib Bahadur Khan, Majjid.	Cuddapah.
118 Sultan Sahib Bahadur Khan, Majjid.	Do.
119 Hussain Sahib, Majjid	Do.
120 Khadu Meah Sahib, Majjid ...	Do.
121 Kareen Sahib, Majjid	Do.
122 Huthumeah Hussain Sahib, Majjid.	Do.
123 Abdulla Khan, Bruce street ...	Bellary.
124 D. Fakkruddin Sahib, Kottagerry.	Do.
125 Sunar Abdul Razacck, Kottagerry.	Do.
126 Hanni Muddappa, Kottagerry ...	Do.
127 Gouse Sahib, Kottagerry ...	Do.
128 Abbu Sahib do. ...	Do.
129 Mandimot Sayyid Sahib, Rayadrug Road.	Do
130 S. Abdul Kareem & Bros., Rayadrug Road.	Do.
131 Doddy Sheriff Sahib, Rayadrug Road.	Do.
132 P. S. Visvanatha Ayyar, East Gate.	Tanjore.
133 Adimulam Pillay, East Gate ...	Do.
134 Narayanaswamy Pillay, East Gate.	Do.
135 Ramachandram Pillay	Do.
136 Raju Naidu, East Gate	Do.
137 Krishnayan Poojan, "The Malabar Timber Trading Co."	Trichinopoly.
138 Ponnuswami Pillay & Sons ...	Do.
139 T. R. Thomas Pillay	Do.
140 Nursami Pillay	Do.
141 S. Sourimuthu Pillay, West Boulvar Road.	Do.
142 Appavoo Pillay & Sons, Boulvar Road.	Do.
143 A. M. Abdul Wahab Sahib, Boulvar Road.	Do.
144 Appadurai Ayyar & Sons, Boulvar Road.	Do.
145 Gopal Pillay, Boulvar Road ...	Do.
146 Thandaraya Pillay, Boulvar Road.	Do.
147 Annia Pillay, Boulvar Road ...	Do.
148 N. Shaik Abdulla Saheb, Shevapet.	Salem.
149 M. Ramaswami Chettiyar, Shevapet.	Do.
150 K. Subramaniya Asari, Shevapet.	Do.
151 V. Ramaswami Chetti, Shevapet.	Do.
152 Namni Ramaswami Chetty, Shevapet.	Salem.
153 Sundaram Chetty, Shevapet ...	Do.
154 S. Jambulingam Chetty, Shevapet.	Do.
155 Vyyapuri Chetty, Shevapet ...	Do.
156 A. K. Kanthappa Chetty, Cart-maker, Kichipoliem.	Do.
157 V. K. Murugan Chetty, Cart-maker, Kichipoliem.	Do.
158 A. K. Andi Chetty, Cart-maker, Kichipoliem.	Do.
159 V. Munnappa Chetty, Cart-maker, Kichipoliem.	Do.
160 V. Chinnathorai Pillay, Cart-maker, Kichipoliem.	Do.
161 R. P. Ramaswami Pillay, Cart-maker, Kichipoliem.	Do.
162 P. K. Subrahmaniya Pillay, Cart-maker, Kichipoliem.	Do.
163 Kanthaswamy Asari, Cart-maker, Kichipoliem.	Do.
164 T. M. Doraiswamy Asari, Cart-maker, Kichipoliem.	Do.
165 U. Subbraya Asari, Cart-maker, Kichipoliem.	Do.
166 B. Krishnaswamy Nayudu, Avanasi Road.	Coimbatore.
167 R. Sankaranarayan Ayyar, Station Road.	Do.
168 T. R. Ramanatba Ayyar, Post Office Road.	Do.
169 N. P. Harihara Ayyar, Stanes Road, Post Office Road.	Do.
170 C. Ali Haji. Stanes Road, Post Office Road.	Do.
171 K. Ramaswamy Nayudu and Venkataswamy Nayudu & Co., Avanasi Road.	Do.
172 C. Kunhi Raman and P. Kunhi Raman, Stanes Road.	Do
173 P. K. Unni Nayar and T. R. Nayudu, Edayar Street.	Do.
174 K. Moideen Pichi Rowther, Hall Road.	Do.
175 Muniappa Gounder and Vellingiri Gounder.	Do.
176 K. Ibrahim Khan, Mill Road ..	Do.
177 H. Babu Sahib, Mill Road ...	Do.
178 L. Subba Pillai, Timber Merchant.	Do.
179 Marathikhan Sahib, Pulamparai, Podanur P.O.	Do.
180 Ramaswamy Goundan, Dombilipoliem.	Do.
181 Pillaymuthu Goundan, Kuppandabpoliem.	Do.
182 C. N. Muthuswamy Pillay ...	Do.
183 Krishnaswami Nayudu ...	Do.
184 C. R. Nanjappa Konar ...	Do.
185 Vellingiri Chettiyar, Alandurai, Thondamathur P.O.	Do.
186 K. Mandiappa Chettiyar ...	Pollachi.
187 M. Krishnaswamy Pillay ...	Do.
188 A. Masilamony Mudaliyar ...	Do.
189 S. Krishnaswamy Mudaliyar ...	Do.
190 A. Krishna Chettiyar	Do.
191 K. S. Karuppan Chettiyar ...	Do.
192 K. M. Mammorthy Chettiyar ...	Do.
193 R. Rathnasabapathy Mudaliyar.	Do.
194 R. Ramaswamy Nayudu	Do.
195 S. S. Venkatarama Chettiyar ...	Do.
196 K. Syed Kasim Sahib	Do.
197 V. Narasiyer	Do.
198 K. K. Alagiri Chettiyar	Do.
199 R. V. Sreerangaraju Nayudu ...	Do.
200 Ameer Sahib	Do.
201 Mr. Billimoria, Timber Merchant.	Ootacamund.
202 Mr. Elias Seth ...	Do.
203 I. H. Rahimtulla Dayabhoy, Katalmandy.	Hyderabad.

APPENDIX I—*cont.*

List of Timber Merchants—cont.

Serial number and name of timber merchants.	Place.
204 Karimbhai Dharam Singh Katalmandy.	Hyderabad.
205 Rai Bahadur Ramanna Pooliah and Kishtia, Katalmandy.	Do.
206 Lalji Maigji, Katalmandy ...	Do.
207 Durga Prasad, Muslim Jung Bridge.	Do.
208 Nilam Sivayya, Muslim Jung Bridge-	Do.
209 Madur Venkatram, Gosh Mahal Kunta.	Do.
210 Irttula Bucha Rajayya, Gosh Mahal Kunta.	Do
211 Mucheirla Bhimayya, Gosh Mahal Kunta.	Do.
212 Abid Bin Ahmad, Gosh Mahal Kunta.	Do.
213 Ala Rajayya, Gosh Mahal Kunta.	Do.
214 Kalbergu Virayya, Gosh Mahal Kunta.	Do.
215 Viswanatha Manikkam, Gosh Mahal Kunta.	Do.
216 Bitlu Venkanna, Gosh Mahal Kunta.	Do.
217 Linga Vittayya, Gosh Mahal Kunta.	Do.
218 Kari Raju Mallayya, Gosh Mahal Kunta.	Do.
219 Gunda Angayya & Sons, James Street.	Secunderabad.
220 Podutur Viranna and Narasimmulu, Rear Road.	Do.
221 Balgovindas Chubildas, Rear Road.	Do.
222 Bachu Gurumurti, Ghusmandy.	Do.
223 Ducha Rangayya, Market Street.	Do.
224 Kotta Sagasid Garu, Kottalingalu.	Rajahmundry.
225 Nadipolu Venkataraju, Kottalingalu.	Do.
226 Pundiri Veeranna, Kottalingalu.	Do.
227 Chukka Appalasuu, Kottalingalu.	Do.
228 Mamidi Buchiar, Kottalingalu ...	Do.
229 Abdul Kadir Sahib, Kottalingalu.	Do.
230 Nunna Sitaramayya and Bouna Appanna, Kottalingalu.	Do.
231 Tirumalsetti Nagabhushanam, Satyanarayanapuram.	Bezwada.
232 Pasupati Subrahmanyam, Satyanarayanapuram.	Do.
233 Tirumalchetti Bapanayya, Satyanarayanapuram.	Do.
234 Tirumalsetti Ramaraju, Satyanarayanapuram.	Do.
235 Uppalpatti Ramraju, Satyanarayanapuram.	Do.
236 Akula Thathayya, Satyanarayanapuram.	Do.
237 Gopu Balakrishnayya, Satyanarayanapuram.	Do.
238 Jaldu Subba Rao (near Railway Station).	Do.
239 Jaldu Munikyala Rao (near Railway Station).	Do.
240 Gopu Balakrishnayya (near Railway Station).	Do.
241 Sinha & Co.	Guntur.
242 Lingamallu Subbarayadu ...	Do.
243 Tummuguntla Appayya	Do.
244 Do. Pullayya	Do.
245 Do. Venkataratnam ...	Do.
246 Polisetti Kristayya	Do.
247 Somu Sriramulu	Do.
248 Vindovalli Hanumantha Rao ...	Do.
249 Dasari Suryanarayana	Do.
250 Koummuri Subba Rao	Do.
251 Batlu Kotiratnam	Do.
252 Kahatri Balaji Singh	Do.
253 Muhammad Akbar Sahib ...	Do.
254 Do. Ismail	Do.

Serial number and name of timber merchants.	Place.
255 G. V. Subba Rao and B. Satyanarayanamurti.	Guntur.
256 Anantha Kondayya Chetti ...	Kurnool.
257 Ananta Naganna Chetti	Do.
258 S. G. Narasappa	Do.
259 Mahaboob Sahib	Do.
260 A. Govindaraja Mudaliyar, Arcot Road.	Vellore.
261 V. K. Ramakrishna Mudaliyar, Arcot Road.	Do.
262 Muniswami Pillai, Long Bazaar Road.	Do.
263 A Ratna Mudaliyar, Arcot Road.	Do.
264 V. S. Muthukumaraswami Mudaliyar, Arcot Road.	Do.
265 M. P. Raju Pillai and Manikkam Pillai, Arcot Road.	Do.
266 Messrs. T. J. Ganisait & Co., Santhipet.	Mysore.
267 Sowcar M. D. Mudappa & Sons, New Agrahar.	Do.
268 Mr. T. S. Nilakantayya, Lakshmi Vilas Agrahar.	Do.
269 Gulam Moideen Sahib, Bamboo Bazaar.	Do.
270 Syed Muhammad, Merchant and Commission Agent.	Do.
271 T. S. Kandaswami Pillai, Sivarampet.	Do.
272 Mr. V. Thimmayya, Uttanahalli.	Do.
273 Mr. U. Lingappa, Uttanahalli ...	Do.
274 Messrs. Gousikhan & Bros., Nazarbad.	Do.
275 Mr. M. Narasinga Rao Sindhe, near Railway Station, Vontikuppal.	Do.
276 „ K. Linga Gowda, Kannigowda Kuppal.	Do.
277 „ K. Linganna, Bamboo Bazaar.	Do.
278 „ T. H. Krishnamurti, Bamboo Bazaar.	Do.
279 „ N. Bhogi Mallayya, Devatige Bithi.	Do.
280 „ Vasudevaraju, Killa Mohalla Bakshi's Garden.	Do.
281 „ M. Subrahmanyappa, Krishnaraja Mohalla.	Do.
282 „ B. Subraya Chetti, Hale Agraharam.	Do.
283 „ Kempanna, Mandi, Thovara Bithi.	Do.
284 „ C. Dasappa, Old Agraharam.	Do.
285 „ H. Kittappa, Bamboo Bazaar.	Do.
286 „ B. Thammayya, Rice Mandy, Santhipet.	Do.
287 „ T. S. Jamaluddin, Bamboo Bazaar.	Do.
288 „ Niligiri Kariyappa, Santhipet.	Do.
289 „ Syed Abdul Kadir, Bamboo Bazaar.	Do.
290 „ V. Kannalingan Mudaliyar, Engineering Contractor and Timber Merchant.	Do.
291 „ K. Puttanna Chetti, Antersante.	Do.
292 „ Maloor Patel Dasa Gowda, Kanthalk Hobli, Heggadadevankottai.	Do.
293 „ M. R. Subba Rao, Mugge Heggadadevankottai.	Do.
294 „ Sheik Muhammad, Bamboo Bazaar.	Do.
295 „ K. Kanttappa, Bamboo Merchant.	Do.
296 „ Abdul Rauf, Ieediga Station, Door No. 2194.	Do.
297 „ Madgum Sheriff, Mandimohalla.	Do.
298 „ V. Krishna Rao, Krishnaraja Mahalla.	Do.

APPENDIX I—*cont.*

List of Timber Merchants—cont.

Serial number and name of timber merchants.	Place.
299 Mr. M. Krishna Rao	Bangalore.
300 „ B Arsoji Rao, Near Kengaraigate Police Station.	Do.
301 „ V. Govindarao Sindhe, Near Kengaraigate Police Station.	Do.
302 „ H. M. Abdul Karim Sahib, Hosekote, near Kolar Gate.	Do.
303 „ Messrs. Petrie Hay & Sons, Bangalore Engineering Works.	Do.
304 Haji Sir Ismail Sait, Champion Reef, Kolar Gold Fields.	Do.
305 Mr. Sanjeevaraya Chetti Chickpet.	Do.
306 „ B. Arsoji Rao, Ranasinghepet.	Do.
307 „ V. Venkatasubbayya, 10 Cottonpet.	Do.
308 „ M. S. Narayana Rao, Chamarajpet.	Do
309. Mr. S. Krishniah, Obiah's Lane, Cottonpet	Do.
310. Mr. H. Krishna Chetti, Sankarpet ...	Do.
311. Messrs. Ahmed Sahib and Muhammad Kabir Brothers.	Najangud.
312. Mr. Veera Chandrappa, Naviloor.	Do.
313. Mr. K. V. Narayana Rao ...	Do.
314. Mr. B S. Nagesa Row	Do.
315. Palani Pichi Reddi	Nellore.
316. A. Chengal Rao	Do.
317. Chundur Ramiah Chetty, Nawabpet	Do.
318. Amaru Kondiah. Santhapet, Santhapet	Do.
319. Talupooru Subramiah	Do.
320. Buchu Guruviah Chetti... ...	Do.
321. Vamana Seshayya and Amara Subbayya Chetty & Co. ...	Do.
322. Korrapatty Subraya Chetty ...	Do.
323. Vijaya Lakshmi & Co., Kovvur.	Do.
324. K. Abdul Aziz Sahib, Kucheri Road	Vaniyambadi.
325. Perianna Achariar, New Town Road	Do.
326. A. S. Kandaswami Nadar & Sons	Madura.
327. K. L. T. Shanmugham Pillay ...	Do.
328. V. S. V. Velliyappa Nadar ...	Do.
329. K. C. Arunachella Nadar ...	Do.
330. A. R. A. Ponnuswami Nadar ...	Do.
331. N. P. C. S. Shanmukalingam Pillai	Do.
332. V. Muthuswami Ayyar & Sons ...	Do.
333. A. R. A. Shanbuga Nadar ...	Do.
334. C. Venkataranga Rao	Do.
335. C. M. Syedmustan Sahib, East Masi Street	Do.
336. P. K. Pakkeemahommad Rowther, Kolmaram dealers, Kilamasi Street	Do.
337. Vellasami Pillai, Kolmaram dealers, Kilamasi Street ..	Do.
338. M. M. Meenakshisundaram Pillai, Kolmaram dealers, Kilamasi Street	Do.
339. Syyed Rowther, Kolmaram dealers, Kilamasi Street ...	Mayavaram.
340. S K. Brothers	Kumbakonam.
341. V Krishnamurthy Ayyar ...	Do.
342. Ponnuswami Chettiyar	Do.
343. S. K. Brothers	Mayavaram.
344. V. Krishnamurthi Ayyar ...	Do.
345. S. Rajam Ayyar	Do.
346. Kolandappa Chettiyar	Cuddalore.
347 S Govindaswami Chetti ...	Do.
348 T. M. Natrajan Chetti	Do.
349. S. Govindaswami Chetti ...	Panruti.
350. K. M Vythialingham Chetti ...	Do.
351. S. Rangaswami Chetti & Son ...	Do.

Serial number and name of timber merchants.	Place.
352. A. Veerappa Chetti & Son ...	Panruti.
353. K. Ponnuswami Pillai	Pondicherry.
354. V. P. Manikkam Chetti	Do.
355. V. Ramaswami Mudaliyar, Bavapeta	Conjeeveram.
356 Narayanaswami Mudaliyar, Theradi	Do.
357. C. Vasurama Mudaliyar, Theradi.	Do.
358. Gopalsami Mudaliyar, Theradi...	Do
359. S. K. Ekambara Mudaliyar, Theradi	Do.
360. V. Govindaraja Mudaliyar, 531 Hodsonpet	Do.
361. M. Kannappa Mudaliyar, 531 Hodsonpet	Do.
362. Sivasankara Mudaliyar, 531 Hodsonpet	Do.
363. Kachiapallaya Mudaliyar, 531 Hodsonpet ...	Do.
364. Parthasarathi Naiker, 531 Hodsonpet	Do.
365. Mr. Shanmugam Pillai, Kalladakurichi	Tinnevelly.
366. Messrs. Ravana Mana Subbu Mudaliyar & Sons, Kalladakurichi, Tinnevelly	Do.
367. Mr. K. S. Muthu Nadar, Kalladakurichi, Tinnevelly	Do.
368. Mr. Lakshumana Pillai, Kalladakurichi, Tinnevelly	Do.
369. Shambugamuthu Asari, Kalladakurichi, Tinnevelly	Do.
370. Mr Samikannu Nadar, Kalladakurichi, Tinnevelly	Do.
371. K. L. Ayyangar, Ambasamudram.	Do.
372. Padayachi, Ambasamudram ...	Do.
373. Senthinadar, Virudhunagar ..	Ramnad.
374. T. V. S. Vanniaperumal Nadar, Virudhunagar	Do.
375. O. P. T. Chidambara Nadar, Virudhunagar	Do.
376. A. S. S. A. Thirumuthiah Nadar, Virudhunagar	Do.
377. V. S. T. P. Shunmugha Nadar, Virudhunagar	Do.
378. S. S. Sankaralinga Nadar, Virudhunagar	Do.
379. Veerabadra Nadar	Sivakasi.
380 Arunagiri Nadar	Do.
381. Kandaswami Nadar	Do.
382. Ponnuswamy Nadar	Do.
383. Venkeet Raja	Rajapalaiyam.
384. M. S. S. Sankaralinga Nadar ...	Do.
385. Bhatacharana Bohara, Rajakundu, Russelkonda post ...	Ganjam.
386. Krupasindhu Patnaik, Birinchipur, Buguda post	Do.
387. P. Butchi Patro, Russelkonda ...	Do.
388. Satyavedi Naiku, Putilisayi, Kullada post	Do.
389. Satyavedi Naiku, Putilisayi, Kullada post	Do.
390. Kusha Podanu, Jillandi, Russellkonda post	Do.
391. Naddu Podhanu, Lemvhayi, Kullada post ...	Do.
392. Sarcui Dora, Pangidi, Buguda post	Do.
393. Sanyasi Podhanu, Kundukocha, Russelkonda post	Do.
394. Syama Podhanu, Bripodoro ...	Do.
395. Parsu Naiku, Nattanga, Russellkonda post	Do.
396. Chintamoni Palu, Bevipalle, Russelkonda post ..	Do.
397. Kandho Patro, Sirikoi, Russellkonda post	Do.
398. Jugisti Behara, Birinchipur Russelkonda post	Do.
399. Siva Pani, Buguda, Buguda post	Do.
400. N. Bignesh Patro, Buguda post.	Do.
401. Dayanidhi Das, do.	Do.

APPENDIX I—*cont.*

List of Timber Merchants—cont.

Serial number and name of timber merchants.	Place.
402. Khetra Naiku, Takavada ...	Ganjam.
403. S. Damodara Bora, Pangidi, Buguda post	Do.
404. Ogadhu Naiko, Mingoda, Minagoda post	Do.
405. Konta Podhanu, Bamsolundi, Russellkonda post	Do.
406. Ambatti Suryaprakasa Rao ...	Cocanada.
407. Koya Appalaswami	Do.
408. Rudra Narayana Rao	Do.
409. Manyala Appalaswami	Do.
410. Geddam Varahalu	Do.
411. Nalam Ramalingayya Garu	Do.
412. Ambatti Gurumurthi	Do.
413. Alladi Venkatramiah	Cocanada.
414. Angani Govindarayudu	Do.
415. Pappanna Narasannah	Do.
416. Madisetti Venkatareddi	Do.
417. Madisetti Venkataswami ...	Do.
418. Borsu Sathiraju	Do.
419. K. Adinarayanamurthi	Do.
420. Abdul Gaffoor Sahib, Palmaner	Chittoor.
421. Valari Abdul Mazid Sahib, Palmaner	Do.
422. Govindarajulu Naicker, Palmaner ...	Do.
423. N. Abdulrahim Sahib, Palmaner.	Do.

APPENDIX II.

Statement A showing the export and import trade in timber of Malabar and other important ports.

Year.	From	To	Teak. Tons.	Junglewood. Tons.	Junglewood. Value.	Remarks.
					RS.	
1927–28 ... Figures furnished by the Customs office, Madras.	Madras Coastal ports.*	Cutch	893	859		* By coastal ports I take it for granted that they are mostly the ports on the West Coast.
		Kathiawar ...	1,045	10,785		
		Cambay	...	553		
		Bombay	229	8,159		
		Sindh	26	3,896		
		Goa ...	...	169		
		Gaekwar State ...	...	53		
		Baluchistan ..	...	53		
		† Foreign ports...	470	...	2,86,773	† Foreign ports are, Persia, Asiatic Turkey, Arabia, Muscat, Bahrein Islands, Ceylon, America, Germany, Aden, Baluchistan and Italy.
	Burma	Madras	50,150	212		
	Bengal	"	..	1,434		
	Foreign ports ...	,, ...	...	...	1,05,780	
1926–27 ...	Madras ports ...	Bombay	180	5,883		Figures furnished by Bombay Customs.
	Burma ...	"	49,590	480		
1927–28 ...	Madras ports ..	Karachi	36	3,861		Figures furnished by Karachi Customs.
	Bombay ports ...	"	6	569		
	Burma	"	8,907	3		
	Sadasinghat, or Kodibag port of Kanara District, Bombay Presidency.	Bombay	956	3		Teak sleepers 49.
		Goa	404	476		
		Bhavnagar ...	217	14		
		Cutch Mandvi ...	107	9		
		Porbunder ...	107	95		
		Other ports ...	68	79		
1927–28 ...	Bellikerry port of Kanara District of Bombay Presidency.	Goa	167	1,473		
		Kathiawar States.	63	263		
		Other ports ...	3	266		

Year.	From	To	Teak and Junglewood. Tons (appx.)	Teak and Junglewood. Value.	Remarks.
				RS.	
1927–28 ... Madras Ports.	Tellicherry ...	Porbunder in Kathiawar.	33	2,702	Figures in value furnished by the Customs office of Porbunder.
	Azihakkal		263	21,017	
	Cochin		304	24,363	
	Baliapatam ...		93	7,456	
	Calicut		1,734	1,42,170	
Bombay Ports.	Karwar		...	272	Figures in tons approximate.
	Bellikerry ...		..	15,372	
	Sadasinghat ..		1,252	18,381	
	Honavar		..	6,542	
	Other ports ...		..	62,109	
1927–28 ...	Calicut	Veraval in Kathiawar Jungad State.	2,556	2,04,512	Figures in tons of Veraval.
	Baliapatam ...		86	7,060	
	Cannanore		215	17,193	
	Cochin ...		80	6,367	
	Bombay ports		1,449	2,32,988	
1927–28 ...	Malabar	Bhavnagar in Kathiawar.	3,245	2,58,547	Figures furnished by Bhavnagar State.
	Konkan		10,062	6,73,994	
	Canara		400	60,487	
	Guzarat		2,455	98,282	
	Bombay		1,142	1,83,185	
	Malabar	Jamnagar	1,000	80,000	Approximate.

Porbunder and Veraval States had furnished figures in value only and Bhavnagar State in quantity and value. So from Bhavnagar figures I have struck the approximate quantities for Porbunder and Veraval. As I had no time at Jamnagar and no time to visit Cutch I could not obtain the Customs figures for these important ports. For Jamnagar I guess it will be about 1,000 tons and for Cutch we can adopt Madras Customs figures, *i.e.*, 1,752 tons. The imports in Kathiawar according to their Customs figures from Malabar come to 9,200 tons, in Bombay to 6,063 tons, in Karachi 3,897 tons, in Cutch 1,752 tons, in Cambay 553 tons or 21,465 tons in all, whereas according to the figures furnished by the Madras Customs office, the exports from Madras Ports to the above ports comes to 25,866 tons. The difference is 3,401 tons, but it must be remembered that the figure 6,063 tons furnished by Bombay Customs is for 1926–27,

whereas the quantity given by the Madras Customs for 1927–28 is 8,388. Thus the difference on the whole would only come to 1,000 tons.

I am afraid these figures cannot be relied upon because the Calicut Customs Collector on a reference from me stated that no statistics is being maintained for coastwise shipments though very large quantity is shipped by country crafts. The maintenance of accurate accounts of such shipments is of great importance and it ought to be insisted on. However, whether the Customs figures are accurate or not it at least gives us some idea as to what an enormous quantity of timber is exported from Malabar and Cochin in addition to what is supplied to other interior districts in the Madras Presidency.

Statement B showing the quantity of timber exported from and imported into stations on the South Indian Railway and Madras and Southern Mahratta Railway via *Jalarpet, Trichinopoly and Quilon, i.e., mostly from Malabar, Travancore and Cochin as per the figures furnished by the railway.*

Timber markets or railway stations.	Quantity booked to various stations.		Booked to Foreign or local railway.	Quantity received from various stations.		Name of the Railway.
	Wrought tons.	Unwrought tons.		Wrought tons.	Unwrought tons.	
Gudiyāttam	...	...	...	...	76	M.S.M.
Ambūr	...	...	...	...	214	Do.
Vāniyambādi	...	...	...	...	184	Do.
Kolar Gold Fields	...	...	...	...	1,073	Do.
Malappatti	...	...	...	...	21	Do.
Kuppam	...	...	...	...	116	Do.
Bowringpet	...	...	...	...	18	Do.
Bangalore	...		.	. .	1,336	Do.
Kasaragod, M.	...	190	F.	...	...	S.I.R.
	...	154	L.	...	...	Do.
Lakkiti, M.	588	..	L. & F.	...	...	Do.
Aryankavu, Qt.	124	188	Do.	...	...	Do.
Quilon, Qt.	1,521	2,124	L.	...	...	Do
Olavakkot, M.	...	3,415	F.	...	...	Do.
		7,921	L.	...	...	Do.
Palghat, M.	3,049	330	L. & F.	...	...	Do.
Parli, M.	...	1,104	L.	...	...	Do.
Cannanore, M.	...	6	L.	...	...	Do.
Edamanu, Qt.	...	1,180	L.	...	...	Do.
Vadakkancherri, C.	...	145	L.	...	...	Do.
Azihakkal, M.	199	1,440	L,	...	...	Do.
	683	997	F.	...	...	Do.
Auvaneswaram, Qt.	...	43	L.	...	...	Do.
Trivandrum Qt.	..	1,599	L.	...	...	Do.
Trichur, C.	468	1,073	L. & F.	...	...	Do.
Parpanangadi, M	19	...	L.	...	...	Do.
Karukutty, C.	12	29	L.	...	...	Do.
Irinjalakuda, C.	320	...	F.	...	...	Do.
Pudukad, C.	12	56	L.	...	...	Do.
Kanjikod, M.	115	160	L.	...	...	Do.
Pallipuram, M.	507		L. & F.	...	...	Do.
Pollachi	433	90	Do.	...	...	Do.
Ollur, C.	...	775	Do.	...	...	Do.
Salem Jn.	...	...	L.	33	..	Do.
Madura	...	...	L.	2,652	862	Do.
Trichinopoly Fort	...	138	L.	...	10,408	Do.
Coimbatore	...	219	L.	...	2,255	Do.
	...	...	F.	...	...	Do.
Erode	...	...	L.	...	3,678	Do.
Mayavaram	...	...	L.	591	244	Do.
Tinnevelly	...	...	L. & F.	...	1,156	Do.
Pattambi	1,551·2	163·6	...	...		Do.
Kumbakonam	...	...		1,377·1	106·7	Do.
Dindigul	...	...	...	200·5	39·1	Do.
Walayar	70·3	1,481·7	...	...	...	Do.
Shenkottah	125·1	293·2	...	...	...	Do.
Kallayi	12,847·3	1,385·1	...	...	...	Do.
Tenmalai	1,132·8	2,895·7	...	...	...	Do.
Salem	...	...	...	3,352·6	...	Do.
Punalur	826·7	59	...			Do.
Tanjore	.	...	...	264·1	262·9	Do.
Ernakulam	303·9	420·4	...	...	...	Do.
Calicut	415·6	...	..	..	...	Do.
Tindivanam	...	...	...	...	469·5	Do.